AMERICAN

Journal of Mining,

Milling, Oil-Boring, Geology, Mineralogy, Metallurgy, etc.

VOLUME II.
NUMBER 4.

NEW YORK, OCTOBER 20, 1866.

$4 A YEAR IN ADVANCE.
SINGLE COPIES TEN CENTS.

A STEAM SYPHON PUMP.

On Thursday last a Committee from the Chamber of Commerce, and a select party of other scientific gentlemen, were present by invitation at the works of the Steam Syphon company, Jersey City, to witness the working of the company's newly invented Steam Syphon Pump—illustrations of which appear on this page. Its construction and mode of operation are notably simple. When steam is turned on it rushes from the steampipe B across the globular chamber A into D, carrying the air in A or D before it, thereby exhausting the air from A. Water rushes through the suction pipes C, C, from atmospheric pressure (as in ordinary suction pumps), and the steam-jet drives it forward through the discharge pipe D, E, with velocity proportioned to the pressure in the boiler. It is an independent lift and force pump, without piston, plunger, valve or movable parts of any kind, and is therefore less liable to wear and tear, breakage and chokage, than other pumps, and cannot freeze up. Even lumps of coal can pass freely through it. It must prove invaluable on board steam vessels. A trial was recently made at the Brooklyn Navy Yard, and the Board of Examining Engineers end their report by saying: "The Syphon Pump raises in a given time 41.7 per cent. more water than the (steam) pump having the same area of discharge, and in doing so consumes 48 per cent. more coal, therefore, in economy of fuel, the two kinds of pumps are nearly equal, but the Syphon Pump has superiority in the large bodies of water it can discharge in a given time; in its cost, in occupying less room in a vessel, in its not being liable to get out of order, its certainty of action, and unusual simplicity, there being no valves nor pistons to get deranged or choked by chips or dirt. We unhesitatingly recommend it for relieving the holds of vessels from bilge water, and for discharging ashes from the fire rooms. We also recommend that the one now on board the Narraganset be retained and paid for." For railroad service and as a fire pump it is also well adapted. It has not yet been tried in deep mines, but we see no reason why, when tried, it should not prove a success. In sinking to a depth of 80 feet, it is claimed that they are all that can be desired, as they can raise a column of water from that depth with a pressure of 80 lbs. to the inch. In the case of deep mines, the company recommend a series of Steam Syphons and tanks, one above the other at distances of 80 feet apart—the steam for creating the necessary vacuum being conveyed to each hollow sphere by a pipe covered with a steam jacket. The exhibition appeared to be quite satisfactory. Those of our readers desiring more information on the subject, can get it at No. 48 Dey street, New York.

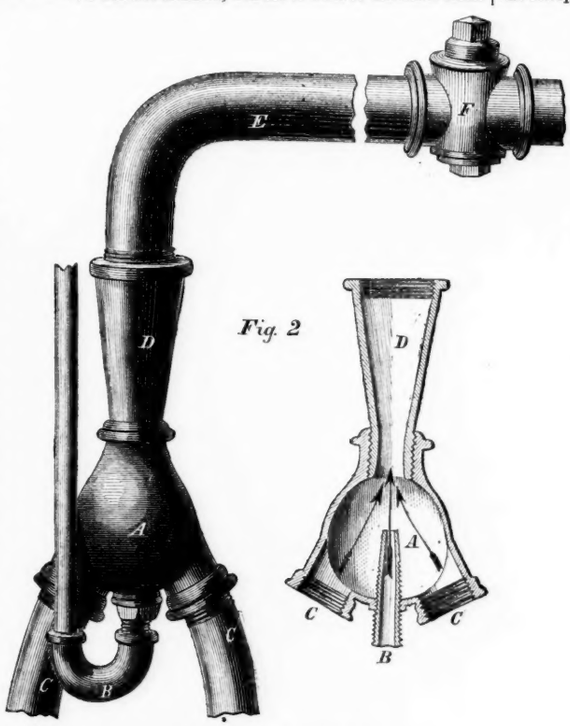


Fig. 2

THE STEAM SYPHON PUMP.

A New Motive Power—Peas.

A paper was read before the British Association by Sir Edward Belcher, showing the expansive power of vegetable matter. After referring to the known action of baked willow wedges, in splitting long columns of granite or in parting mill stones, he said: On the hanging of her Majesty's ship Northumberland, on the slip at Milwall, it occurred to me that a very natural saving of expense would arise from the adaptation of the expansion of peas. I suggested the application of their power to the authorities, but as might be expected from men who had never seen it tried, it was naturally enough derided. However, I was not satisfied, and set to work to ascertain facts. I must confess I was greatly surprised to discover that I could, from a cubic foot of peas, obtain a power to lift 7,125 lbs.—equal to 3 tons 3cwt. 2 qrs. 13 lbs.

"Dips, Angles and Variation."

The Act of Congress to regulate the occupation of mineral lands provides that the purchaser of a quartz vein shall have the right to follow the same "with its dips, angles and variations, to any depth." This phrase, so far as we can learn, was first used in a deed of right to the original locators to the Gold Tunnel ledge in Nevada. Knowing nothing of the dip and position of quartz ledges, the locators took up a square claim, so as to include the ledge on the surface. They afterwards purchased of the parties owning the ground on the line of the dip the right to work the ledge under their ground. The deed of right was drawn up by Charles Marsh, and so as to be sure and include every thing connected with the ledge he used the expression "dips, spurs, angles, sinuosities and variations." This phrase was afterwards incorporated in the original draft of the Nevada county quartz mining law, and at the meeting of the Convention in the fall of 1852, a question arose as to the meaning of the different words. The meaning was fully expounded by Judge Walsh and others, and the clause was retained in the law, except that the word "sinuosities" was stricken out as surplusage. The clause has since been used in the quartz mining laws of most of the districts on this coast, and is now incorporated in the Act of Congress, with the exception that the word "spurs," which means the feeders of the main ledge, is omitted. That the expression is appropriate in the description of a quartz mine is evident from the fact of its having been so universally used.—*Nevada Gazette.*

Primitive Iron-Workers.

Sir Samuel Baker, the African traveller, describing the natives near the source of the Nile, says they make iron weapons though the blacksmith had nothing but stones for his anvil and hammer. The natives, however, were absolute savages. They had no clothing, except the ladies, and they merely wore what he called a shirt of mail, about 9 inches long and 6 inches broad. He obtained one of the shirts, which had belonged to the wife of a chief, and he found that it was made of rings of iron, neatly joined together. The work had been done by a blacksmith who had a cleft stick for a pair of tongs, a stone for an anvil, and a stone for a hammer.

Gas Supply.

Among the new undertakings proposed in England, is one for the transmission of gas from works to be erected near the coal mines through large iron pipes, to London and neighboring towns on the road—thus saving the cost of transporting the coal, and avoiding the nuisance caused by local gas works. The promoters estimate that they could supply gas at one shilling, say 30c. per 1000 cubic feet, leaving ample margin for dividends.

Separating Phosphorus From Metals.

It is well known that phosphorus is a substance which prevents the production of pure qualities of iron and other metals, and all attempts to remove the same have hitherto failed. Mr. Carl H. S. Wintzer, of Hanover, has found that chlorine gas and chloride of calcium are adapted to obtain the desired result. Chlorine gas, as a simple element, does not decompose, and chloride of calcium, is the only combination thereof which, at the different degrees of temperature which occur in practical metallurgy, neither volatilizes nor decomposes unless another agent be introduced. Other known combinations of chlorine, as chloride of magnesium, decompose even at the boiling point of water; chloride of sodium becomes volatile at a comparatively low temperature. Mr. Wintzer,

therefore employs chlorine gas and chloride of calcium for the removal of phosphorus, in processes of melting ores and in the treatment of metallurgical products. He makes use of this gas and the salt in blast furnaces as well as in the process of puddling, refining, and recasting, and in any kind of furnace and in all processes of melting, applying the gas direct or adding the prepared salt (chloride of calcium) in any convenient form; or employing solutions containing muriatic acid, with the simultaneous use of lime or calcareous substances, by which process chloride of calcium is formed at the moment of its application. Through the effect of chlorine gas and chloride of calcium on phosphatic ores and metals, volatile combinations of phosphorus are formed and thereby the phosphorus is removed. The process is as follows: In smelting an ore of iron or other metal containing phosphorus as an impurity, the operator charges into the smelting furnace with the ore chloride of calcium in the proportion of from five to twenty-five parts by weight for each part of phosphorus found by analysis to be contained in the ore, and in other respects the smelting operation is conducted in the ordinary manner. The resulting metal will be found much more free from phosphorus than if the ore had been smelted without the addition of chloride of calcium. In place of adding the chloride of calcium direct, lime and muriatic acid may be mixed separately with the ore, or may be otherwise applied in combination. It is more convenient, however, to employ chloride of calcium ready formed. Or, in place of employing chloride of calcium, chloride gas may be used; the gas may be mixed with air and forced as a blast through the ignited charge in the furnace, or the gas itself may be blown through the melted metal after it is tapped out of the furnace. The quantity of chlorine thus applied should be from three to fifteen times the weight of the phosphorus contained in the ore or metal. Chloride of calcium or chlorine may be applied in a similar manner when remelting iron or other metals, when it is desired to separate phosphorus therefrom. Phosphorus can thus be separated from all metals to which a strong red heat can conveniently be applied; more especially, however, it is applicable to the treatment of iron and copper.—*Br. Ex.*

New Explosive Agents.

Galignani, alluding to recent official experiments with M. Gustave Nuemeyer's new gunpowder says: The property of this new gunpowder consists in its not exploding unless subjected to a strong pressure. Its ingredients are the same as those of the common sort, but the proportions are probably different—a circumstance which of course is the inventer'r secret. M. Neumeyer makes four kinds of gunpowder, viz., one for ordnance, another for muskets, a third for fowling-pieces, and a fourth for mining purposes; the three first are granulated, but the fourth is a very fine powder. A certain quantity of the other sorts was set fire to in the open air; it burnt away with a fizzing noise like that of sulphuric acid dropped on a brick; it emitted a smell of sulphur. Eleven kilogrammes of the compound were introduced into three small wooden barrels, which were then carried with their bungholes left open into a small house built of stone and roofed with tiles. The door was locked and a train fired. A thick smoke first issued from a chimney, and was followed by flames; no real explosion took place, but after a few seconds the roof was thrown down, together with part of one of the walls, whilst the three barrels, though somewhat injured, were found entire; so that the above-mentioned effect must be attributed merely to the pressure occasioned by the heat and the gas. In another series of experiments a cartridge containing 38 decigms. of gunpowder was introduced into Prussian needle gun. At a distance of 150 metres, the olive-shaped bullet went through a target composed of a piece of oak between two pieces of fir, forming an aggregate thickness of about a foot. The same quantity of gunpowder introduced into the gun without being rammed, simply fizzed and did not expulse the bullet. We understand that these experiments are to be continued.

A Song for the Stock Exchange.

Happy the man who lives content
On money sale at three per cent.!
Invests it not in bubble schemes,
Nor e'er of speculation dreams.

Him city panics ne'er affright,
Nor threats of money getting "tight,"
He fears not either Bulls or Bears,
Or sudden rise or fall in shares.

Him neither Chancery Courts appal,
Nor the dread Street of Basinghall;
His cash is safe his credit sound,
Though banks be breaking all around.

No horrid dreams disturb his rest,
No anxious fears his peace molest;
No writ destroys his appetite,
And keeps him wakeful through the night.

Oh, were such happy fortunes mine,
Serenely tranquil I would dine!
Nor envy anxious millionaires,
Their dangerous wealth in doubtful shares.

Mining Summary.

Nevada.

The Comstock.—The San Francisco *Mercantile Gazette*, of Sept. 17, says: The mining share market has been exceedingly inactive during the week just closed, exhibiting a limited range of transactions at the board. A few leading ones show considerable improvement, while less favored shares, with few exceptions, maintained previous quotations. The more prominent companies are making very creditable exhibits, and since our last issue we note that the following companies have declared dividends: Hale & Norcross, Savage, Yellow Jacket and Imperial.....Savage was materially improved, opening at $1100, steadily advancing to $1157 50, and closing to-day at $1125 bid. This company declared a dividend of $50 per foot on the 8th inst., which amounts to $40,000, leaving a surplus of $30,000 to be carried forward, together with 2400 tons of ore, free from all mining expenses, the average value of which is believed to be about $65,000. The south drift in the Curtis shaft is improving, and in the upper station the drift is now one hundred and eighty feet from the shaft. During the week ending September 8, the greater part of which was spent in making repairs, three hundred and ninety-one tons were sent to custom mills, and five hundred and fifty-seven tons of ore were amalgamated. .....Hale & Norcross continues to be firmly held, and is well maintained at previous quotations; $1675, seller 30, was bid during the week, with no sales in the Board. Deducting the dividend of $75 per foot, payable on the 15th inst., amounting in all to $30,000, from the gross sum in the treasury, will leave a cash balance of $80,000 on hand. The mine continues to look well, and no unfavorable indications are apparent.....Yellow Jacket has also met with some improvement, rising to $780, then selling at $775, advancing to $815, receding to $792 50, buyer 3, and closing to-day at $727 50, buyer 3. During the month of August the receipts of bullion produced from 127½ tons of first-class, and 7847 tons of second-class ore, amounted to $379,699 92, averaging about $38 to the ton. The disbursements amounted to $249,455 43, the following being the largest items of expenditure: crushing, $148,851; assay, discount and Federal tax, $16,066; timbers, $15,127; and supplies for mine, $6,430. The Morgan mill crushed 2,025¾ tons of ore, yielding $82,550; this gives an average of $40 74 per ton. The amount of cash in bank is reported at $389,126, from which deduct the dividend of $50 per foot, payable on the 15th inst., ($60,000,) and $162,804 amount of indebtedness, and a balance of $166,322 remains to the credit of the company.....Crown Point has been dull, and few sales were made during the week, receding from $875 to $860, then dropping to $800, seller 10, and held at the close at $825. During the week ending September 8, 661 tons of ore were extracted from the mine, on an average yield of about 100 tons per day. The "breast" of the south drift exhibits four feet of ore, and the general appearance of the mine is very favorable to an increased production for the present month.....Gould & Curry has been very dull and inactive, with a downward tendency, a few feet changing hands at $700 to 690, closing at $640 asked. There is nothing of importance to note at this time in regard to the mine. This company now have $40,000 in the treasury, and there is some prospect of a dividend at an early day. .....Ophir has been dealt in at an advance, opening at $200, steadily improving to $212 50, buyer 30, and $207 50, seller 30, at which price 34 feet were sold; then selling at a further advance, $230, buyer 30, closing at $209.....Chollar-Potosi was quite active early in the week, advancing to $142, receding to $139, rallying to $150, buyer 30; then selling at $145 *a*142, and closing at $135*a*144. In the Blue Wing station, running west, a body of ore and quartz from twenty to twenty-five feet wide, was encountered, and an average assay of an assorted lot produced $22 to the ton. During the week ending September 8, five hundred and twenty-one tons of ore were shipped to custom mills.....Imperial has met with few sales at $98 50*a*98 per share; closing at $91 asked. This company declared a dividend of $6 per share, payable on the 15th inst. The Holmes mine continues in good ore. About $10,000 in bullion were realized from the first week's clean up of the present month at the Rock Point mill.....Belcher was held at $120*a*125, buyer 30, early in the week; then receded to $117 50 *a*116, and sold to-day at $125.....Empire Mill and Mining company dropped to $75, selling at the close at $77 50 per share. Alpha sold at $50. Confidence advanced from $59 to $61, buyer 30, and closed at $58 asked. Overman fluctuated from $15 25 to $11, selling at the close at $8, seller 30. Bullion, $26, buyer 30, and $23. Some 1000 shares of Sierra Nevada changed hands within a range of $6 50, less assessment, $10 50, closing at $7, bid.

Humboldt.—The *Register*, of Sept. 22, says: Work in the Chameleon tunnel is making fine headway. The indications are such that the ledge is momentarily looked for. Spurs and feeders in abundance all looking right for an early strike.....Dr. Loomis, of Unionville, is in town again, fresh from the East, making arrangements for working the National & Downey ledges.....Call & Co., dispatched by W. F. & Co., Monday, 750 ounces of bullion, value $255. .....At the Yosemite, Jas. T. Maclean is back, and putting work ahead. He is taking ore now from a body two feet thick, lying against the foot wall. This quartz he estimates, for a low figure, at $100 the ton. .....Mr. Fall brought over a bundle of samples last week, from the large sulphur mine near Humboldt City. He sent specimen pieces below, to San Franciscans, who propose working the mine on favorable conditions.....The Montezuma mine is looking well. The ore has long ago been thoroughly tested, and found profitable, whether worked by mill process or smelted. Then, as the opportunity seemed improving for an effectual system of work, Nason and the other owners have diverted their efforts to a development of the extent and proportions of the ledge. While this has been going on, contracts have been let for materials for more extensive smelting furnaces, and for fuel to feed them. One contract is for two hundred thousand common clay bricks, for outer walls. Firebricks in large quantities are on the way. One hundred thousand bushels of charcoal have been contracted for, and Lamoreaux has his men chopping the timber. Nason has employed an experienced superintendent to take charge of the smelting. He has eight large refining pans, and is now about prepared, with all latest improvements, to commence building the larger furnaces. Whether or not the small furnaces will be fired again before the completion of the new ones, we are not informed. As far as yet developed, the ledge shows what those best informed estimate at fifteen thousand tons of ore, worth $90 the ton. Nason is negotiating for the interest of the Y. V. C. Rollins and C. W. Burke. The price has been agreed upon, and a time for closing the purchase. If this purchase is accomplished, the Montezuma will be entire in the hands of Nason, Roots & Co. In that case we will expect a prompt and efficient working of the mine, and large yields of bullion. Small companies work more effectually than large.....In Winnemucco district, Pease is running a tunnel in the ledges of the Union Series, for an Eastern company. The ores in these ledges are similar to those of Arabia district. Holt's mill is running most of the time on quartz from the Monroe Series.

Union.—The Nye county *News*, of Sept. 22, says: There is but little doing in this district at present, though many of the miners from this place who have been off prospecting all summer, are now returning, and we may soon expect to see considerable work doing in the mines. Negotiations are pending for the purchase of the Pioneer mill of this place, which is still idle, not yet being freed from the meshes of the law. Should the negotiations prove favorable, the mill will be immediately put in repair and started, when we may expect to again see the good times of last winter. Professor Clayton has a lot of the best mines of the district in the Eastern market, and should he succeed in disposing of them, there is no reason why Union district should not make as much noise abroad as any district in the State. We have been shown rich ore from the new districts discovered in the eastern and southern parts of this county, have heard of big ledges, but have yet failed to see richer ore than has been and can be produced right here at home. The greater portion of the work doing at present is in the southern part of the district, where the Knickerbocker company have a large force at work on the Great Eastern mine, and work has been resumed on some of the claims belonging to the Atlantic and Pacific company. At the office of the latter company we were shown several fine specimens from the Silver Age and Silver Light, assays from which gave satisfactory results, averaging over $230 per ton. We hope soon to be able to chronicle the commencement of active operations in this district.

Mammoth.—The *News* speaks of a handsome specimen of bullion, the result of two pounds of ore from one of the Hamilton company's ledges, in Mammoth district. The yield was at the rate of about $600 per ton.

Reese.—The *Reveille*, of Sept. 27, says: The Keystone mill is generally regarded as the most complete in the State for the reduction of silver ore. The addition of several more furnaces would render it absolutely perfect. Batteries, furnaces and amalgamating room are so admirably placed and arranged, as to seemingly admit of no suggestion for their improvement, and the manner in which the establishment is managed is the very perfection of economy and system.....We saw this afternoon at the assay office of J. R. Murphy, two smooth fine bars of high grade bullion, valued at $2500. They were the product of 16 tons of ore from the Timoke mine on Lander Hill, which is under the able superintendence of W. F. Leon. The ore was reduced at the Keystone mill, where Dawley, in the amalgamating department, is daily surpassing himself. We learn that the pulverized ore assayed at the rate of $183 per ton, and the working of the mill was within ten per cent. of the assay.

Hot Creek.—The *Reveille* says that Indian Jim ledge, the most important in Hot Creek district, crosses the canon at a right angle, and rises up the steep, perpendicular hills on either side to the height of nearly two thousand feet. It is claimed that the

ledge has been traced four miles to the northward. and about one mile to the southward. The course of the ledge is north and south, with a dip of sixty degrees to the east. The foot wall on the west is a compact crystallized limestone, and the hanging wall on the east is a friable decomposed slate, which has been greatly abraded by the action of the elements, leaving a considerable portion of the eastern surface of the vein exposed. The face of the vein thus exposed is about six hundred feet long and sixty feet wide, presenting a massive wall of mineral, in which chloride and sulphuret ore may be found, the former predominating near the upper portion. Where the vein is exposed it varies in thickness from thirty to sixty feet. The situation of the ledge affords the greatest facilities for the most systematic and extensive operations in mining. Nature seems in this instance to have given the miner an example of her method of opening a vein on a grand scale. The canon serves the purpose of a stupendous natural shaft, in the profound depth of which the massive ledge is within sight and reach of the workman, whose hand is guided not by the dim light of the candle, but by the rays of the full-orbed sun. The drainage of the mine is thorough and perfect through the great depth of the immense gorge, which is simply an extensive natural adit.

Michigan.

The Keweenaw *Times*, of Oct. 5th, says: A party of men who were engaged in building the section of the newly laid out range road through the Delaware location, on the north side of the Montreal river, and near the boundary line between the Delaware and Amygdaloid location, discovered a vein of fine promise, indeed, the fore part of last week. With shovels alone they took out 102 pounds of copper in a short time. Trying a single hole in the vein, they uncovered a small mass. This is a little singular, as no one had ever supposed that a copper-bearing vein passed through the country at that point. The general appearance of the vein is good, indeed, and it may be it is a monster lode.....The Ontonagon *Miner*, of the 6th inst., furnishes the following: The five washers at the Union mine are a perfect success.....At the Mass mine, the two masses taken out last week are now in ingots. The lighter one weighed over 3,000 lbs., and the heaviest one 6,300 lbs., and we learn that the percentage yield is very good.....At the Superior the vein on the second level west is very encouraging as far as opened, giving evidence of heavy copper. The eastern stopes are also yielding paying quantities of stamp and barrel work.....At the Rockland the new south adit struck rock at 40 feet from the entrance, and is now securely timbered that distance. The purchase of land from the Minnesota Company gives the Rockland all the surface rights south that they require, and over 900 feet additional length on the vein. This gives them a most valuable mining property, one requiring only time for its proper development to make one of the best in our district.....Work at the Henwood mine continues to yield the most gratifying results for the very small force employed. Several small masses, one of over half a ton, were brought down to the works this week, and we learn that the levels east of No. 3 shaft all show well for mineral, and that the stopes over them are producing more mineral than heretofore.....The product of the Minnesota for September (42 tons 1,800 lbs.) was lessened by some detention and by stopping the mill before the close of the month, to put in the new bed-plate and rollers. Should these work satisfactorily, the steady increase which commenced in June will be kept up for some months to come..... A Minnesota paper says: In looking over some statistics of the report of the Secretary of the Treasury, for the year 1864, we have been amazed at the vast amount of capital invested, and business already being done in what is known as the Lake Superior region. What was but a few years ago an unbroken wilderness, seems now to be in a fair way to rival, if not eclipse, the far-famed mines of Cornwall. In the report to which we have alluded, the total amount of capital invested in the mines in Michigan alone is estimated at $6,000,000, and that the aggregate amount of copper produced in the year 1863 was not less than 9,000 tons of stamp work, worth over $6,000,000. The products of the Marquette iron mines for 1863 were 185,000 gross tons of iron ore, and 13,782 gross tons of pig iron. In 1855 the product of the same mines was only 1,447 tons of iron ore. What a wonderful increase in less than ten years! The exports from Lake Superior in 1863 amounted to $10,000,000, and imports of provisions, machinery, merchandize, etc., to $12,000,000.....A correspondent of the Boston *Commercial Bulletin* writes of the Lake Superior mines: Perhaps the best method of describing the appearance of the mines themselves is to relate the incidents of a visit last year. We crossed over to the Pewabic property, the steep, picturesque road passing the miners' neat white cottages, pleasantly ornamented with surrounding grass plots and bright patches of flowers. Our first visit was to the main engine on the Pewabic. We were fortunate in finding it in operation, one party of men passing down the platforms while another was coming up. The effect of the lighted candles seen far down in the darkness, gradually ascending in a zigzag way, as the miners stepped from one platform to another, was very curious to witness. On descending, the view of the lofty cavern, twenty or thirty feet wide; the deep, dark gulf below our feet; the lights glimmering like stars around us; the sound of the miners' pickaxe and hammer, and the occasional roar of the blast, all combined to produce a certain sense of awe. We continued our walk to the neighboring kiln houses, where we watched the breaking of the rock by hand labor, and thought it very rich, as the copper shone and sparkled all over the pieces as we held them in the sunlight. In many of them it took singular shapes, standing out in curious scrolls and branches; in others it was thoroughly disseminated in small particles through the whole rock We then went through the wards of the very fine hospital on the Franklin location, and finished up the day with a ride on the little locomotive on the Franklin tram-road to the head of the incline, down which we rode on the loaded car of mineral, landing safely at the stamp-mill. The Quincy mine is the most important on Portage Lake. Operations were commenced in the year 1848, by parties interested in the Minnesota mine. Like that, its business office at the East was located in New York, where it has always remained, although half the stockholders are now residents of Boston and the vicinity. The operations on the Quincy lode were attended at first with so little success, that the mill was for some time abandoned. But the opening of the Pewabic lode in the neighboring location led the Quincy Co. to commence on the same vein, and from that time they met with constantly increasing success. In this district geological science has been entirely at fault as a guide in discovering the best point for the commencement of labor. Large sums of money are needed and spent before that point is reached, and this was the case, not only with the Quincy and Pewabic, but with all the other mines in the country beyond. The stockholders would be fortunate, indeed, if all could show as fair a return as the Quincy, to which $200,000 have been paid in as assessments, and which has been able to repay $700,000 in dividends. The tram-road acts in the same way as a gravity-road. The stamp-mill is a very large one, with seventy-six heads of stamps, four of which are used for cleaning barrel-work. It is the best in the country, and the most perfect in all its appointments, though, at the same time, it is doubtful whether it is so economical as some. The force of men employed is larger than in any other mine, and the product of mineral obtained amounts to about 120 tons a month. The store, office and hospital are all well built and in good condition. The docks and warehouse are admirably constructed, with every convenience for the receiving and shipment of goods. The road to the lake is macadamized, and is kept in excellent repair. The town of Hancock, on this property, has grown into a large and flourishing village, nearly, if not quite, as large as the opposite town of Houghton. The location at the foot of the bluff on which the Quincy is situated is known as the Hancock mine. It is more admirably situated for economical working than any on Lake Superior. The entrance to the adit is not more than a quarter of a mile from the lake, and the incline of the tram-road is just sufficient to enable the loaded car to bring up the empty one, requiring no expense for horsepower or machinery. The stamp-mill is on the shore of the lake, but is small and inefficient, and utterly incapable of accomplishing all the work required by a large and flourishing mine. The surface improvements are indifferent, and the roads are in a miserably unfinished condition. It now promises to be one of the most flourishing mines in the vicinity. The character of the lode is similar to the Albany & Boston conglomerate, though without the round pebbles there found in the rock. During the past summer, a number of large masses were taken out, which was a new and interesting feature in the working of the mine. The Douglass, Arcadian and Concord mines, situated about three miles west of the Franklin, have been in operation only two or three years. The lode on which they are worked is the continuation of the Isle Royale vein, on the opposite side of the lake. The Douglass and Arcadian are principally owned in New York, and are under New York management. The Concord location was originally purchased by the Franklin Company, simply for woodland. Much good barrel-work has been taken out, but, until some arrangements have been made for stamping facilities, nothing of very great importance can be accomplished on either of the three locations. The only other mine on the south side of the lake is the Highlands, which, in fact, is not so much of a mine as a village. Its situation is remarkably favorable, being directly upon the water; and various causes have led to extensive settlement upon the location. Quite a village has sprung up, designated by the distinctive name of the Ripley. The copper of all this district is smelted at Portage Lake, with the exception of that from the Quincy, which is sent to Detroit. The smelting-works are situated on the shore of the lake, about an equal distance from the Pewabic and Franklin stamp-mills, and are in constant operation, day and night. For the first few years of mining, all the copper was sent to Detroit or Cleveland in the rough, and freight had to be paid on 25 or 30 per cent. of useless matter. Afterwards several gentlemen in Boston united to form a stock company, and the smelting-works at Portage Lake were erected. The copper is brought here from the various stamp-mills and the mines, and is run into ingots, and is then barreled and sent to New York.

Montana.

The following items we condense from the Virginia City *Post*, Sept. 22d: The returns from Highland gulch continue favorable. All the ground has been taken up, and claims are valued from $1,000 to $12,000. There is no chance for anybody who is "dead broke." The highest run of which we have heard has been $1,100 in ten hours.....B. R. Martin, of the this city, who owns quartz lodes by the mile, has gone to St. Joseph, Missouri, to visit his family. He carries 600 pounds of specimens of metallic rock with which he proposes to "astonish the natives," of Wall street, New York. If he succeeds in his efforts he will return next spring with the best mill that can be found.....In Summit District about 450 men are engaged in mining pursuits. The bed rock flume above Summit City pays well, and the quartz mills, which are running, will settle all questions regarding the value of the leads.....A correspondent writes from Deer Lodge City, Sept. 3d: News from Elk and Bear gulches is uninteresting. The former is perfectly played out and the latter is rapidly playing out. Prospectors returning from Salmon river pronounce it as perfect a "bilk" as Elk creek. Highland is, at present, the great Eldorado for our hungry prospectors, and they are "shoving" in that direction quite lively. We are expecting to hear every day of its proving a humbug, or that some one has "struck it big."....Another writes: Prickly Pear City (formerly Montana City), presents a more animated appearance than it did six months ago, owing to the resumption of bar mining. The mines were discovered in the latter part of July, 1862; but probably owing to their not coming up to the too sanguine expectations of the discoverers, were not thoroughly worked; but are at present managed with fair results, prospecting from one to four cents to the pan. The *modus operandi* adopted is ground-sluicing, the creek (Prickly Pear) affording plenty of water and ample fall to conduct the ditches to the highest bars. As yet, only German bar, immediately above the city, is yielding up its yellow treasure; but some other bars are soon to be in working order.....At Jefferson City but little has been done in the shape of quartz mining, except in the way of prospecting; and as quartz indications abound in this vicinity, many were the discoveries made; but there it stopped, owing to the inability of the owners to develope their discoveries. A New York company, under the superintendence of Dr. Russell, are at work on the Gregory lodes and probably will bring a mill to their ledge next spring, should the quality and quantity of the ore justify them.....At Boulder, discoveries and stakes indicate the location of many quartz ledges; but, as yet, no returns have been made to the lucky owners of gold and silver lodes, both of which are numerous. Professor Hodge has now, near Barclay's ranche, one "Scotch hearth," and a two horse-power engine, and is sinking on several ledges; but although the ores he takes from different ledges prospect satisfactorily, they are not found in sufficient quantities to pay for their working. It would be invidious to mention a few of the (what are termed) best ledges, without naming them all, which want of space prohibits; but as soon as one or more of those that are being worked upon now are paying, we shall take particular pleasure in recurring to them.....The Virginia City *Democrat*, Sept. 20th, contains the following runs made by the Alpine Mill with quartz taken from the Hot Spring District: Twenty-seven ounces of gold from 7,000 pounds of unassorted ore, taken from Boaz Lode. One hundred and seventy dollars from two tons of rock taken from Pony Lode. Twelve hundred dollars cleaned up after melting 25 tons of rock from Galena Lode. Four hundred dollars from 5 tons of rock from Prim Rose Lode. Three hundred dollars from 5 tons of rock from Maiden Lode.....Reports from Highland gulch continue to be good, and it is probable that a large amount of gold will be taken out before cold weather. There seems to be some doubt as to what county Highland belongs.....A letter from Eagle Rock Bridge, Snake River, Sept. 15, says: A report has come in which bears the marks of reliability, that three hundred Cheyenne Indians made an attack on the miners at the recently-discovered Green River diggings, and killed forty out of the party, about seventy strong. The remainder of the party, it is said, have abandoned that country and scattered to different settlements. It is also reported that the miners have been driven from the Wind River Mountains by the Sioux, and have taken the direction of Fort Bridger. Some three hundred Snake Indians have also sought the protection of the Fort. The mines are said to be about eight or nine dollar diggings. These reports are brought in by parties who are known to have started for the Green river mines, and there is no good reason to doubt them except the proverbial inaccuracy of the reports of irresponsible parties.....The Helena papers furnish the following: The Wild Pilgrim lode, on Greenhorn gulch, has assayed $451 in gold and $1000 in silver to the ton. It has a shaft thirty feet in depth.....Wessels and Wilkes' six-stamp mill, in New York gulch, yesterday (Sept. 17th) cleaned up, from thirteen and a half tons of rock, $1, 326, in four days' run.....Some claims

in Bear gulch pay eighteen dollars per day to the man. One bar yields eight hundred to one thousand dollars per day.....Salmon river is called a "bilk." .....Good prospects have been obtained within eight miles of Fort Owens, in the Bitter Root valley..... Difficulties about claims continue at Confederate gulch. .....A correspondent writes fom Helena, Sept, 17th: "Starting from Helena, a good mountain road for about five miles, brings you to the head of Grizzly gulch, where there is a beautiful open field, called a park. Turning to the left, and following the sound of noisy machinery, you come to the unpretentious building which contains the quartz mill of Judge Thornley, Everything is packed into the smallest possible space. for though not more than 35x20 feet the little building has all the machinery of a ten-stamp mill. This mill has now been running nearly a year working upon rock taken from the park near by, and though attended by the usual disadvantages and imperfections of stamp mills everywhere, is doing a paying business, and will continue to run during the winter. Crossing the park to the West, and passing through a grove of fine old cedars, you come to Nelson gulch, and soon upon a very large new quartz mill, the property of the East Bannack company. This mill has but recently gone into operation, and has experienced the vexations incident to the working of a new machinery. The day on which I visited it, an accident had happened to the crusher, and the mill was, consequently, not running. They have been working on some of the finest rock in the Territory, giving, as it does, after a thorough prospecting, a dollar to the pound of rock, or $2,000 to the ton. A few hundred yards beyond the Bannack, and up a retired and lonely ravine, stands another fine building of equal size, in which is being put up the machinery of the Bullion company of New York. Some strange delays have attended the transportation of this company's machinery, but it has arrived at length, and the mill will soon be in running trim. Jim Whitlatch, the energetic, busy Jim, who is everywhere at once, is about having a large 24 stamp mill put up on his property in Oro Fino, close by the site of Prof. Hodges' new mill. So you see that the quartz interest hereabouts is being attended to as it should be, and as it must be, if Montana is to go onward and upward, as we believe she will.....W. F. Sanders appeals to the miners of Montana to send specimens to the French Exhibition, and adds: The nuggets will be safely cared for, and sold there or returned, as the owner may desire. The quarts specimens should be in triplicate—one for the Exhibition, one for Columbia College, and one for assay by Professor Charles A. Joy, of the school of Mines of that college, whose certificate of that assay will accompany the specimen exhibited. Any specimens addressed to me, care of Professor Joy, Columbia College, New York, charges paid, will be attended to.

California.

Nevada.—Our *Transcript* files to Sept. 13 contain the following: A Chinese company have been working over the bed rock in a set of claims at Relief Hill, in this county. Last week they found a boulder, weighing forty-five pounds, from which they took thirty-four pounds of pure gold. This haul netted them the neat little sum of $6,936, as the gold was sold for seventeen dollars per ounce.....A considerable amount of prospecting is being done on Fall Creek at present. The miners are running tunnels for two different gravel channels which are known to cross that region. One of them has been opened and is known to be exceedingly rich. The other has never yet been tapped, but the miners are very confident that they will find good pay when it is reached. Maguire & King have exceedingly rich claims in the hill. The Wolverine company run in a tunnel, last spring, one hundred and fifty feet, but they go so high up on the channel that they could not work for water. They are now running a deeper tunnel, two hundred feet, and they think fifty feet will take them to the channel, from the point where they are now working. Dillon & Co. are in with their tunnel two hundred and sixty feet, and expect to tap the channel soon. Many other companies are prospecting, sinking shafts or running tunnels, and all the miners predict that the Fall Creek mines will be yielding largely before winter.....The Eagle Mining company, of which Mr. Pattee is agent, have their magnificent 110 horse-power engine all ready, and will soon get their pump in operation. These works are being erected upon the California mine.....On Saturday last a one-twelfth interest of the San Joaquin gravel claims, situated at Birchville, in this county, was sold by Jenkin Morgan to Wm. Davis. These claims are very valuable, averaging from eight to ten thousand dollars to the clean up of two weeks' run.....The Yellow Diamond, on Rocky Ravine, two miles from Nevada City, is being worked with excellent results.....The miners in the vicinity of Washington are prospecting for quartz and recently several rich discoveries have been made.....The Meadow Lake *Sun* says: There is a constant demand here for experienced and industrious miners.

Alpine.—The *Miner* of Sept. 15th says that Mr. Wilson has arrived, and already the hands are engaged to run the tunnel of the Shenectady company's mine. .....The American company, in sinking an incline for the purpose of ventilating the works below, this week struck another body of quartz, the back ledge from the croppings of which such good assays were obtained some time since. The size of this ledge is not known, and the incline is in the west casing merely grazing the ledge; so not much is known as to its quality, though the samples of quartz shown us will compare favorably with the best ever found here or elsewhere.....The Mullan shaft is now down one hundred and twelve feet, and the quartz now found is of better character than at any point above.

Kern.—A letter from Poe's Camp, Rio Bravo district, says: The General Washington lode runs over a hill near this mining camp, and two shafts, six feet wide, have been sunk. The lode is over seven feet wide. It stands nearly perpendicular, and promises to be among the best, if not the very best mine in this country. We have also found quicksilver or cinnabar mines. Two of them show in the out-croppings the largest amount of cinnabar of any mines of that class in the State. They crop out on the summit of a high ridge of land, and are easy to approach and work. The largest cinnabar mine is three miles from here.

Plumas.—The *National* says: Messrs. Rogers, Abbott & Co., comprising the Norway company, are having fair success in opening their ledge, on North Canyon Gulch, near Greenville. They have sunk a shaft about forty feet, and have found excellent pay. Last week the rock which they crushed paid $20 per ton. They are now taking out rock which will pay from $25 to $30 per ton.....The Caledonia ledge, at Round Valley, owned by Messrs. Bidwell & Co., is being prospected with success, paying last week $18 per ton.

Mariposa.—The *Alta* of Sept 12th says: To make assurance "doubly sure," the managers of the Mariposa Estate continue to make experiments with the new process of working gold quartz rock. Twenty-two tons of ordinary rock from the Pine Tree mine were treated last week, and the result proved much larger than the most sanguine anticipated, being $918.48, or a fraction of $42 per ton. If the experiments, which are to be continued, increase the yield of the precious metals at this ratio, we will see a revival in the gold quartz mining interests of the State..... The Mariposa *Gazette*, Sept. 8th, says: The Bear Valley mines are paying better than ever before. The rock at the Pino Tree and Josephine veins average from thirteen to sixteen dollars per ton, and the veins are extensive enough to warrant their holding out as long as any one will want to work them.

Colorado.

The Central City *Register*, of Oct. 2d, says: Uncle John Sensenderfer has taken from his 20 stamp mill, on North Clear Creek, within the past three weeks, nearly ten thousand dollars in gold. He expects to ship $4,000 from the same source next week..... George R. Mitchell, yesterday, shipped 188 ounces of gold retort, which was taken from eleven cords of average Alps ore. Yield per cord, a trifle over two hundred and seventy dollars. Mr. Mitchell is running 12 stamps, with the above encouraging results..... The report of the gold shipment for the last week, by our Central City bankers, should have been forty-seven thousand dollars instead of a less sum, as reported by us. The shipments from Denver were still greater, making over a hundred thousand dollars from the two places, for the week. This is a decided advance on the past.....We hear very favorable reports from James Creek, north of Left-hand, in Boulder county. The ores are mixed sulphides of copper and lead, and contain both silver and gold. Crevices are wide, and the mines are near the plains. Gulch mines are also reported there of considerable richness. Indications are that the mines are very valuable. New gulch mines have been found in other localities, which are still kept a secret..... We were in Black Hawk a few moments yesterday, and noted many substantial improvements that have recently been added to the town. Business seems to have received new impetus there, since the old, long idle stamp mills have been set at work again. Mr. Dubois has his custom desulphurizer fairly completed and at work, though we learned with much regret that his machinery is not running very smoothly at present. It will soon be arranged however. Mr. F. C. Johnson informed us that they were now making copper mats, and will, in the course of two weeks, be in condition to produce two tons of this matting weekly. It is to be shipped to Swansea, England, for separation, the amount of copper obtained being sufficient to defray all expenses. .....Alex. Cameron advertizes in the *Register*: GULCH MINERS WANTED—Wages $2 50 and board, three dollars for ten hours labor.....The Black Hawk *Journal*, of same date, says: N. F. Spicer, agent of the Red Mountain Broadway Mining Association, came in Tuesday evening, with about 1,000 lbs. of good-looking ore, one piece of solid iron, and copper pyrites, weighing 142 lbs. It is about one fifth of the original piece, and may be seen on the stoyp of Ed. Baker's store. Mr. Spicer is fully satisfied that the most extravagant expectations from Red Mountain mines will be fully realized in the end....."Let our miners dismiss the idea of a sale and go to work; let our mining companies do as the Corydon Co. has done, persistently sink upon their property, pile up the ore by the cord, confine their operations to the erection of such buildings as they really need, conduct all their operations with economy, and with reference to the future, keep an eye out for best process, and when found, introduce it and extract the gold and not waste it, and then companies will cease to be, as the most of them now are, synonyms for all that is extravagant, wasteful, and foolish, and our mines will speedily be recognized as the richest in the world."....The Denver *News* says of the Small River mines: Our latest advices from this region are that Whitney & Whiting will run a tunnel on Ten-mile Creek this winter. The agent of this company, Mr. A. A. Sawyer, is developing their property in Peru and Snake River mining districts. J. Blackman, of Mill City, is packing over the range one thousand pounds of ore from the Esmeralda lode, Snake River, to be sent to Philadelphia. Joe T. Boyd, Prospector for the Nonpareil Prospecting and Mining Company, has discovered, and is now sinking a shaft on a lode with a twenty-five foot crevice, in Colifax Park, Snake River District. The ore is a very fine appearing argentiferous galena mixed with chloride of silver, and those who have seen it feel confident of its great value. The weather is very fine, and prospecting and mining is being vigorously prosecuted at Snake River.

Louisiana.

De Bow's Review for September says: The geological and mineralogical surveys of the State have been very partial and incomplete, but they have demonstrated that iron, lead, copper, coal, lime, salt, soda, copperas, gypsum, marl, ochres and petrolenm abound in the upper and western portions of the State. The iron fields extend from the Ouachita to the Sabine. There are three tractable varieties of ore, and some of them will yield sixty per cent. of iron. These ores are inexhaustible, lie convenient to railroads and navigation, and are in close proximity to lime for fluxing, to oak and pine forests for charcoal, and to abundant water power. Lead is found in Clairborne, Jackson, Union and Sabine parishes, and arrangements are now on foot to work the lodes. Copper has been recently found in Union Parish and on Sabine river. Lignite, or brown coal of superior quality, underlies the whole northern and southwestern parishes of the State. Strata of eight feet are known, and on the Sabine strata of fifty feet have been discovered. Carbonate of lime and common limestone exist in nearly all the northern parishes, and at the salt works in Bienville there is a bed of fossiliferous limestone two hundred feet thick. Salt and salines are found in every part of the State. Extensive establishments for boiling salt are carried on in North Louisiana, and in the south and near the Gulf, in the parish of St. Mary, rises an island to the height of nearly two hundred feet, which rests upon a solid mass of rock salt over forty feet thick and of many acres in extent. It is pronounced the purest and best salt ever used in this country, and is now being extensively worked and sent to market. Soda springs exist in Sabine, De Soto and Natchitoches parishes, from which soda was made during the late war. Carbonate and nitrate of soda are both found. Sulphur of iron or copperas is found very pure in many places on the Sabine and in Bienville, Natchitoches and other parishes; sulphuret of iron or iron pyrites, from which sulphur, sulphuric acid and copperas are made, is very abundant, a bed of it in Sabine being nearly fifty feet thick. Gypsum exists everywhere in the salt regions; vast beds of fertilizing marls occur in De Soto, Sabine, and on the Ouachita; ochres are very abundant, and have always been used by the Indians and rural population for dyeing. Asphaltum is found at King's salt works in Bienville parish and in Calcasieu. Petroleum springs have long been known, and several companies are now organized to work them. The engrossment of all the enterprise, labor and capital of the people in the profitable cultivation of the great staples, has left the mineral resources of the State undeveloped and almost unknown. They are, however, rich and abundant, and well skilled labor and enterprise would be most profitably employed in applying them to the great mechanical and manufacturing uses for which they were intended. There is near Lake Bisteneau, in close proximity to the salt works, an immense bed of dolomite, or magnesian limestone, from which, by boiling it in the bittern of the salt works, epsom salts may be made. Potters' clay is found in many places. Fire clay, for making fire brick, is found in the Parish of St. Tammany, from which fire brick of excellent quality was made previous to the war. It is also found in the elevated islands, as they are called, in the parish of St. Mary.

Utah.

A correspondent writes from Salt Lake city, September 17th, to the *Times*, concerning the City Creek mines: "The news spread one day, and that and the next there was an extraordinary stampede of pilgrims, armed with picks and shovels, for the place of promise, some of said pilgrims, in their haste to get first to the auriferous spot, paying large prices for any sort of conveyance, until neither animal nor vehicle could be hired The third day there was some shaking of heads among the returned, and the fourth day most people were tolerably well satisfied that the gold had not been reached. Now the sensation has entirely died away. It is a thing of the past. One hears not a word of it. A large number of claims were staked and recorded—a good thing for the clerk—but the

parties making the claims seem perfectly willing to wait, like Micawber, for something to turn up as to their claims. The city soon resumed its wonted quietness, and the City Creek mines bid fair to be soon forgotten.....The *Vedette* of September 20th, says: We have received from Mr. Gibson, of Stockton, a specimen of the first run of silver made from the Utah Mines, and from the following letter it will be seen that within a few days Mr. G. will be turning out the silver bricks daily:

EDITOR VEDETTE: I send you by to-day's stage a small piece of silver that I took out of my Cupel Furnace this morning. I would have been able to have sent you a much larger one, but owing to the bursting of the principal cupel, in the furnace, I lost at least five pounds of silver. My furnace would have been a complete success but for the accident mentioned, which was unlooked for by me, and I am unable to give any cause for it at present. I regret the accident very much, for I am desirous of presenting to the citizens of Utah the first silver brick taken out of the mines in this Territory, and I will do as yet if other parties do not hurry themselves a little faster than they have done heretofore. I have some other specimens, which I will send to other parties to-morrow. J. W. GIBSON.

A correspondent of the *Reveille* writes: Ten miles from Hoytville we reached Coalville a thriving Mormon village, supported principally by its coal mines. Here there is a Mormon Church, several stores, blacksmith shop, etc. There are about six mines opened and worked, and yet they cannot supply the demand at Salt Lake City. The coal is hard stone coal, and crops out in fine ledges. It sells at four dollars per ton at the mine, and it costs thirty-two dollars a ton to haul it to the city. When the railroad rushes through Austin, Coalville, with its coal and water privileges will compete with the settlements in the Sierra Nevada in the reduction of your rich sulphurets.

Ohio.

The Boston *Commercial Bulletin* says: J. McDermott & Co. operated the stone quarries at Berea, Ohio, quarrying and loading 12 cars per day. They employ on an average 50 men, who earn from 14 to 20 shillings per day. The rock here quarried is of excellent quality, free from all iron or sulphur, at a distance of eleven feet from the surface. For fine carved and chiseled work this stone is largely used, and heavy orders are received from New York, for building purposes. Indeed, Boston is just now buying largely for fronts of some of her new stores, and so great is the demand, that for quarry land, undeveloped, the fabulous price of $1,000 per acre is refused.

New York.

A contemporary states that the Harewood Iron company will have their Forge and Separating Mill, in St. Lawrence county, New York, completed by the first of January next. They intend to produce iron for the manufacture of steel, for which their ore is specially adapted. We understand that this enterprise is the first entering wedge to the development of the extensive iron deposits of that part of the Adirondack wilderness, lying on the St. Lawrence slope, which, though long known to geologists, have remained, hitherto, untouched. The work has been prosecuted with Boston capital.

New Hampshire.

An exchange declares that the "Hartford Gold Mining Company," whose mines are located in the town of Lyman, N. H., are engaged, night and day, in getting out ore which yields a larger per centage of gold than the Colorado or even California mines. H. M. French, Leander Hall and Mortimer Pease, have lately taken up three properties in that vicinity, and have sunk a shaft eighteen feet deep, which yields, according to Prof. Hays's assay, $364 40 to the ton. They are also opening, on the same property, very promising copper veins, and will probably soon form a stock company.

Massachusetts.

The property of the Hampton Mining and Smelting Co., near Northampton, Mass., comprising the lead mine, several buildings, machinery, &c., was sold at auction for $20,000. Andrew McKinney and others, former owners, were the purchasers. A new company has been organized, and operations will soon be resumed.

Rhode Island.

The Mount Hope coal mines at Portsmouth, R. I., are employing 100 men and producing 16,000 tons of coal per year. The main shaft has been sunk 1,265 feet, and another about one-half that distance. A copper mine in the immediate vicinity employs 300 men, and produces 1,200 tons of copper per year. Some of the ore yields 60 per cent. of pure copper.

Australia.

The origin of nuggets has ever been a posing problem to our scientific men. Every one concurs in the belief that all alluvial gold has been derived at some time or other from lodes; but seeing that the largest piece of gold ever found in the matrix is insignificant when compared with the nuggets which have sometimes been found in the alluvial, it has been a difficult matter to reconcile belief with experience. Mr. Selwyn, the Government Geologist, some short time since broached an ingenious theory, which carried with it something of plausibility, and it was this: All nuggets of any size which have been found in Victoria, have been got on gold fields in the neighborhood of volcanic country; but in North Gipps Land and the Wood's Point country, where there is no geological feature of the kind, the largest piece of gold found in the drift had been scarcely worth the mention. Mr. Selwyn had reasoned from these facts that the nuggets were formed by the melting together of smaller pieces, caused by the intense heat which prevailed at the volcanic period. Until lately, so far as we have an opportunity of knowing, the premises from which this deduction was drawn were founded in truth. All nuggets had been found as stated, and none of any size had been discovered in the mountainous district just named. We do not know how far the following recent discovery made in the exceptional part of the country we have referred to will go towards disturbing this theory. The nugget, which weighed 87 ozs., it is said will lose 10 ozs. when melted. It does not seem clear to us yet whether it is a detached specimen from the matrix, or an ordinary alluvial nugget. The largest nugget ever found in these ranges was recently on view at Kennedy's Niagara Hotel. It is a flat piece, about 6 inches long by 4 inches broad, and 1 inch deep. It is slightly incrusted with quartz, and a dusky or brownish-looking coating of dross. It weighs 87 ozs. The claim in which it was discovered is situated on the Jordan, a few hundred yards above the township of Jericho, and immediately below the Haphazard company's lease, on the Charleston line of reef. The fortunate owners, Messrs. Gannon, Grogan & Co., obtained 20 ozs. of fine gold out of the same paddock. This welcome stranger was turned up in forking, and, from its peculiar coating, it is almost a matter of surprise that it was not thrown away with the stones; the owners of it are under the impression that others have been flung off with the refuse before now. It is not taken from the bed-rock deposit, but from the gravel higher up. This shows how cautious alluvial miners should be, not only in their sluicing operations, but also in properly testing the different layers of gravel intervening between the surface and the bed-rock. It is almost superfluous to add that additional nuggets have been found during the month in the neighborhood of Dunolly. Amongst others, three have been sold weighing 35½ ozs., 22¾ ozs., and 18 ozs. At the Bank of Victoria, Yackandandah, a cake of gold was to be seen, the last yield from the reef at Twist's Creek, formerly known as Lee's, which was supposed to have run out. The claim was sold with the tools to its present owners for 40*l*. The cake weighs 178 ozs., and is the product of about 46 tons of quartz, the result of about four weeks' work. On the Adelaide lead, two brothers have just finished working out a claim in one of the bends of the lead, out of which in a few weeks they have obtained 500 ozs. of gold. Discoveries of new and rich quartz reefs are almost daily made, and many of the older mines are again attracting attention by improved yields. The Royal Standard company, Black River, washed off 1239 ozs. 15 dwts. on Friday last, from 110 tons of stone and 120 tons of mullock. Two or three of the fortunate shareholders have received in dividends each nearly 4000*l*. within a period of ten days. Since June, the date of the company's first crushing, the mine has yielded over 6000ozs. of gold. The A 1 Gold Mining company, Raspberry-creek, had 753 ozs. 14 dwts. last week from 500 tons. The Walhalla company has had 848¾ ozs. of gold from 220 tons of stone, or an average of nearly 4 ozs. per ton. The Royal Standard Mine, of Black River, seems destined to win back again for the district the high reputation which formerly attached to it. During the last five weeks the mine has returned 4814 ozs. of gold from about 500 tons of stone, and paid a monthly dividend of 10*l*. per share. Three companies on Morning Star Hill, Wood's Point, have given to their owners in dividends, in the aggregate, no less a sum than 203,000*l*. The Robin Hood (Happy Valley) paid a monthly dividend of 27*l*. per share.—*Mining Record, Melbourne.*

Nova Scotia.

A recent issue of the *Royal Gazette*, says the Halifax *Chronicle*, contains tables showing the number of gold mines being worked in this province, the number of men engaged in mining, the quantities of quartz raised and crushed, with the average yield per ton, and the total amount of gold obtained, for the months of April, May, and June, of the present year, as per statistical returns of the deputy commissioners. In the month of June last, in Stormont, the number of mines being worked was 5; average number of men employed in mining, 42; quartz crushed, 179 tons; total yield of gold, 87 ozs., 8 dwts., 12 grs. In this district there were three quartz mills, two driven by steam, and one by water-power.....Wine Harbor: Number of mines, 7; men employed, 21; quartz crushed, 282 tons; yield, 135 ozs., 11 dwt., 12 grs. Four quartz mills, three steam and one water-power. .....Sherbrooke: Number of mines, 12; men employed, 85; quartz crushed, 297 tons; yield, 626 ozs., 7 dwts., 19 grs. Four crushers, all of which are propelled by steam-power .....Tangier: Number of mines, 6; men employed, 48; quartz crushed, 328 tons; yield, 50 ozs, 11 grs. Four crushers, one steam and three water-power.....Montagu: Number of mines, 2; men employed, 47; quartz crushed 33 tons; yield, 34 ozs., 14 dwts. In this district there is but one crusher, and that is driven by steam-power. .....Waverley: Number of mines being worked, 14; men engaged, 347; quartz crushed, 1,452 tons; yield of gold, 800 ozs., 4 dwts., 5 grs. Six crushers, five steam and one water-power.....Oldham: Number of mines, 10; men engaged in mining, 42; quartz raised, 40 tons, crushed, 28; yield, 14 ozs., 18 dwts., 8 grs. Seven crushers, six steam and one water-power.....Renfrew: Number of mines, 15; men employed, 113; quartz crushed, 246 tons; yield, 286 ozs., 4 dwts. Six crushers, five steam and one water-power.....Unreclaimed and other districts: Number of mines, 6; men engaged in mining, 11: quartz crushed, 37 tons; yield, 28 ozs., 11 dwts. In these districts there is but one crusher, and that is propelled by water-power. We observe by the tables that there were 6 ozs., 10 dwts. of gold obtained otherwise than from the crushers. The above returns are for June alone, during which month, in the combined districts, there were 77 mines being worked; average number of men employed, 576; amount of quartz crushed, 2,874 tons, which yielded 2,064 ozs., 10 dwts., 8 grs. of gold. The operations for the months of April and May were on much the same scale, with similar general results. In April, in the combined districts, 2,088 ozs., 16 dwts., 1 gr. of gold were obtained; in May, 1,761 ozs., 18 dwts., 4 grs.; and in June, 2,064 ozs., 10 dwts., 8 grs., making a total for the quarter of 5,915 ozs., 4 4 dwts., 13 grs. Yield for the quarter ended March 31st, 5,018 ozs., 8 dwts., 16 grs., making a total for the half year ended June 30th of 10,933 ozs., 13 dwts., 5 grs. . . . The Halifax *Sun* says: Mr. C. Burns has shown the editor of the *Witness* this week a bar of gold weighing thirteen ounces, the result of twenty-five days' labor of four men washing the auriferous sand at the Ovens. . . . . To day we were shown an immense "brick" from the Ophir Gold Mining Company, Renfrew, by Mr. H. B. Prince, the manager. It weighed 511 ounces, 18 dwts., the result of three weeks labor, and is valued at about $10,000. . . . We were shown to-day, by Joseph Browner, Esq., a piece of gold weighing 6 ozs. 16 dwts. 12 grs, value $133 80. Mr. B. informs us it was the yield of 7½ tons of quartz, averaging $18 per ton. Cost of mining, $7 per ton. The quartz were taken from the Dumbrack leads, Strawberry Hill, Tangier.

New Brunswick.

Professor Bailey has published a report on the coal mines of New Brunswick, prepared at the request of the Lieutenant-Governor of that province for the use of the home government. We see it stated, says a Nova Scotia paper, that similar reports have been ordered from the Nova Scotia and other coal producing colonies of Great Britain. The Professor points out the fact that "more than one-third of the province of New Brunswick, or an area of from 7,000 to 8,000 square miles, is covered by rocks of the carboniferous or coal-bearing series, being a continuation of the same series in the adjacent province of Nova Scotia, the combined extent of the two being as much as 18,000 square miles. While, however, in the latter coal seams are numerous and collectively of great thickness, those of New Brunswick are few, small, and for the most part unimportant." The Professor shows that there are ten localities in New Brunswick where outcrops of bituminous coal, of five inches in thickness and over, are found. At Salmon river the seam is twenty-two inches thick, at Newcastle twenty, and at Coal creek twenty-one. From these three localities, all in the county of Queens, 12,863 chaldrons have been taken since 1858, of which 5,000 chaldrons were raised in 1854. Nashwaak river, Washademoak, Dunsinane, Cape Enrage, Cocagne river, Richibucto river and New Bandon are the other points named. The New Brunswick papers say that the Americans have recently made large investments in Queens county, and that extensive purchases of mineral lands have been made there by persons in St. John.

La Plata.

The Buenos Ayres *Standard*, of Aug. 25th, says: Mr. Heurtely, from the San Juan Mines, has arrived, and gives a very pleasing picture of the affairs of the company. Only last week two large plates of solid silver have arrived from the establishment of Messrs. Klappenback, in San Juan. These samples have been exhibited on the Exchange in this city, and attracted marked attention; they are valued at from £900 to £1,000 sterling, and will be forwarded to Europe by this packet. There can be little doubt that the silver mines of San Juan are yet destined to be better known in Buenos Ayres than at present, and as it is known that Messrs. Klappenback's concern is giving a handsome profit, we believe that when the present war is concluded, several similar establishments will be formed.

Costa Rica.

A correspondent writes from France: "A cargo of gold dust has arrived in Paris from Costa Rica. It is said to consist of about 1,000 pounds of pure gold, and several specimens of mineral. The latter have been sent for analysis to the Mining School in Paris. This is the first result of the efforts of a French company to which ten gold mines have been conceded by Dr. Castro, the new President of Costa Rica. The director of this company is a French General, named Gallemer, who has obtained the Emperor's permission to take foreign service, and now holds rank as General of engineers under Dr. Castro. The French papers brag at a great rate about this concession, which they speak of as likely 'considerably to augment French influence among the republics of Central America, and to restore the lustre of the French name, which, it must be confessed, has been somewhat diminished since our intervention in Mexico.'"

GOLD.

COMPANY.	SHARES.	STOCK.	SITUATION OF MINE.	SECRETARY & PLACE OF BUSINESS.
Acadia			Nova Scotia	H. W. Nelson, 24 City Ex., Boston.
Ada Elmore	200,000	$2,000,000	South Boise, Idaho	B. Lawrence, 157 B'way, N. Y.
Amber	300,000	300,000	Greene Co., Penn.	Geo. W. Grove, 276 S. Third, Phil
Albton		300,000	Halifax, Nova Scotia	H. W. Nelson, 24 City Ex., Boston.
Alps	100,000	250,000	Illinois Central Dist., Col.	J. Stanton, Jr., 25 Nassau, N. Y.
Ascot	50,000	5,000,000	Sherbrooke, Canada E.	G. H. Morrison, 17 Nassau, N. Y.
Atlantic				Chas. Barett, 13 Doane, Boston.
Atlatic & Pacific	50,000	5,000,000	Humboldt T., Humbolat co.	J. N. Sewall, 8 Broad, N. Y.
American	100,000	5,000,000	Gregory Dist.	
American Flag	60,000	600,000	Nevada Dist., Col.	H. Foles, 71 B'way, N. Y.
Astor	200,000	1,000,000	On Comstock Lode	J. Chapman, 71 Broadway, N. Y.
Baltic			Colorado	New York.
Bates & Baxter			Colorado	New York.
Bay State	200,000		Colorado	Lem'l Bangs, Boston.
Benton	100,000	500,000	Colorado	F. W. Capen, 44 Ex. Pl., N. Y.
Black Hawk	50,000	5,000,000	Gilpin co., Col.	D. Littlejohn, 81 John, N. Y.
Beacon		500,000	Halifax co., Nova Scotia	J. B. Post, 29 Ex. Pl., N. Y.
Bobtail	100,000	1,000,000		J. Stanton, Jr., 25 Nassau, N. Y.
Briggs	10,000	1,000,000	Gilpin co., Col.	D. Littlejohn, 81 John, N. Y.
Bradshaw	250,000	1,000,000	Yavapai County, Arizona	O. H. Conover, 219 Dock st., Phil.
Burroughs	100,000	1,000,000		L. Bangs, 22 Pine, N. Y.
Bullion	200,000	1,000,000	Bannock, Montana	69 Liberty, N. Y.
Bullion Consoli.	300,000	300,000	Sammit and Clear Creek., Col.	J. P. Whitney, 19 Lindall, Boston
Calvin	200,000	1,000,000	Clear Creek co., Col.	
Canadian				A. Call, 7 Phœnix B'l'g, Boston.
Chem. Gold&S. B			Eldorado Company, Cal.	64 B'way
Church Union	240,000	1,200,000		Jesse G. Pitts, 69 Liberty
Chebucto	100,000	500,000	12 miles from Halifax	J. E. M. Gilley, Boston.
Clarendon		500,000	5 miles from Halifax	H. Doane, 41 State, Boston
Chase	5,000	500,000	Colorado	W. E. Lawton, 81 John, N. Y.
Central Gold M.	20,000	1,000,000	Central City, Col.	L. Bangs, 17 Nassau, N. Y.
Central Mining	200,000	1,000,000	Colorado	46 Exchange Pl., N. Y.
Chandiere	100,000	500,000	5,000 A Famine Riv, C. E.	Wm. B. Fowle, Boston.
Cobden	100,000	1,000,000	Idaho	New York.
Colonial				W. N. Ely, 7 Trav'r B'l'g, Boston.
Colorado Boston			Colorado	R. C. M'Laughlin, 60 State, Bos'n.
Colorado N. Y.			Colorado	12 Pine, N. Y.
Coleman			Colorado	New York.
Columbia	30,000	3,000,000	Austin City, Nevada	10 Pine, N. Y.
Consuelo Gold				54 William.
Consol Gregory	50,000	5,000,000	Gregory Dist., Col.	30 Pine, N. Y.
Cook & Kimball	1,000	150,000	Colorado	W. W. Baldwin, 35 Wm., N. Y.
Copalinshee	250,000	5,000,000	Parke co., Col.	J. C. Stocker, 137 B'way, N. Y.
Corrisannee	100,000	1,000,000	Colorado	New York.
Commonwealth			Nevada	Philadelphia.
Corrydoun	100,000	2,500,000	Gilpin co., Col.	46 Exchange Pl., N. Y.
Continental	20,000	2,000,000	Gregory Dist., Col	115 Liberty, N. Y.
Central Gold	200,000	1,000,000		L. Bangs, 22 Pine, N. Y.
Dauphin & Colo.	200,000	1,000,000	Colorado	John S. McMullin, 423 Walnut, Pa.
Day & Bushnell	300,000	3,000,000	Colorado	T. Chalmers, Jr., 20 Ex. Pl., N. Y.
De Lery		10,000,000	Chandiere Valley, Canada E.	J. M. Winchell, 72 Cedar, N. Y.
Denver	50,000	1,000,000	Gilpin & Clear Creek, Col.	J. Wadsworth, 61 Cedar, N. Y.
Devonshire				W. Stockbridge, 74 Fr'klin, Bos'n.
Downieville	300,000	300,000	Colorado	J. C. Harriott, 70 Wall, N. Y.
Dorset			Chandiere River, C. E.	F. McJimsey, 59 Wm., N. Y.
Eagle	100,000	1,000,000	Gold Dirt Dist., Col.	J. P. Davies, 81 John, N. Y.
East Bannack	100,000	200,000	Bannack City, Montana	J. Callender, 48 Ex. Pl., N. Y.
Eldorado	500,000	2,500,000	San A Dist., 9 miles of Austin.	208 S. Fourth, Phila.
Empire Mill & M				O. F. Griffin, San Francisco.
Enriquetta			Arizona	New York.
Esperanza		500,000	Star D., Humboldt co.	117 Broadway, N. Y.
Etna	50,000	500,000	Nevada Dist., Col.	C. W. Bryant, Boston.
Excelsior	30,000	300,000	Central City, Col.	J. Weatherbee, Jr., 11 P. B'g, Bos.
Fairmount	20,000	200,000	Colorado	John P. Harker, 109 N. 6th, Phil.
Famine Falls	100,000	1,000,000		D. L. Dodge, 80 B'way, N. Y.
Garrisons	100,000	5,000,000	Colorado	C. G. Mease, 29 William, N. Y.
Gem	25,000	1,250,000		H. K. Gates, 191 B'way, N. Y.
Georgetown			Colorado	New York.
Gilbert River				C. F. Jackson, 18 Phe'x B'g, Bos'n.
Gilpin				C. W. Galloupe, 76 State, Boston.
Golconda	250,000	5,000,000	Sherbrooke, Canada E	W. H. Adams, 19 Broad, N.Y.
Gold Field				C. B. Cowling, 39 Kilby, Boston.
Gold Rock	5,000	500,000	Central City, Colorado	R. M. Lockwood, 113 Wall, N. Y.
Gold Hill	50,000	500,000	Colorado	W. T. Eustis, Boston.
Gold Mountain	600,000	6,000,000	Clear Creek Co., Colorado	25 Nassau, New York.
Gold Min'g of Col	50,000	5,000,000	Colorado	E. Latham, 23 William, N. Y.
Golden Gate	60,000	600,000	Sum. High'd&Mill C. D., Mon	J. Morse, Jr., 117 B'way, N. Y.
Gunnel Central			Colorado	70 Broadway, N. Y.
Gunnel Gold	300,000	3,000,000	Colorado	F. E. Roelfson, 78 & 80 B'way, N.Y.
Gregory	20,000	1,000,000	Colorado	Thos. Wildes, 17 William, N. Y.
Granada	50,000	125,000	Colorado	J. Stanton, Jr., 25 Nassau, N. Y.
Great Western	60,000	600,000	Russel Dist., Col.	E. Kemeys, 70 Broadway, N. Y.
Gunnel Gold	100,000	1,000,000	Colorado	F. E. Roelofson, 78 B'way, N. Y.
Halifax				A. Case, 7 Phœnix B'l'g, Boston.
Harmony				Demas Barnes, 21 Park Row.
Hemit'ge Ranch	30,000	300,000	El Dorado, Cal.	
Home	80,000	2,000,000	G'ld Dirt Lode, Gilp. co., Col.	J. P. Davies, 81 John, N. Y.
Holman	150,000	300,000	Gilpin co., Col.	J. O'Neill, 24 Nassau, N. Y.
Humboldt	100,000	500,000	Colorado	78 B'way.
Idaho Gold	100,000		Montana	5 Pine, N. Y.
Isaac's Harbor	100,000	500,000	Isaac's Harbor, Nova Scotia	W. F. Shirley, 137 B'way, N. Y.
Isle Royale				44 Ex. Pl.
Kansas Colorado	100,000	1,000,000	Colorado	J. G. Greenlies, 111 B'way, N. Y.
Kent				G. H. Wyman, 19 Phe'x B'l'g, Bos.
Kip & Buell	100,000	200,000	Colorado	J. C. Harriott, 70 Wall, N. Y.
Knickerbocker	100,000	1,000,000	Colorado	F. Avery, 78 B'way, N. Y.
La Crosse	100,000	$1,000,000	Nevada Dist., Colorado	H. Fales, 71 B'way, N. Y.
Liebig	200,000	$1,000,000	Colorado	
Lake Major	12,000	600,000	Nova Scotia	Fred. Franck, 113 Water, N. Y.
Mariposa Gold	100,000	10,000,000	Bear Valley, Cal.	G. W. Farlee, 34 Wall, N. Y.
Mammoth	50,000	500,000	Colorado	J. Jarrett, 41 Liberty, N. Y.
Manhattan	100,000	500,000	Colorado	W. R. Lothrop, 172 B'way, N. Y
Massachusetts	250,000	1,200,000	Gilpin co., Col.	W. D. Briggs, 11 Phe'x B'l'g, Bos
Merchants	30,000	600,000	Alturas co., Idaho	Jas. K. Selleck, 157 B'way, N. Y.
Metropolitan				
Mountain Pride	100,000	1,000,000	B'r C'k, St. Esc., Idaho	29 Pine, N. Y.
Montague	50,000	500,000	near Halifax, Nova Scotia	C. B. Cowling, 39 Kilby, Boston.
Mount Alpine			Griffith Dist., Clear C'k., Col.	J. B. Randol, N. Y.
Mount Vernon	500,000	5,000,000	Mt. V. & Mam'th Dist., Nev.	25 Park Row, N. Y.
Mount Vista	50,000	500,000		J. Chapman, 23 Nassau, N. Y.
Montana	100,000	400,000	Nevada, Ills., Greg'y, Col.	A. L. Guerber, 54 Wm., N. Y
Monte Christo	100,000	2,000,000	White Pine District, Nev.	Thos. Dunlap, 413 Chestnut, Phil
Montezuma	100,000	500,000	Colorado	F. B. Webster, Boston.
Montrose	100,000	1,000,000	Clear Creek co., Col.	C. A. W. Sibley, 80 B'way, N. Y.
Morning Star	5,000	5,000,000	Owyhee co., Idaho	E. M. Barnum, 137 B'way, N. Y.
Mexican Pacific	100,000	10,000,000	Mexico	J. Mackie, 88 Wall, N. Y.
Melones & Stan			Calaveras co	606 Mont, San Francisco.
National	300,000	3,000,000	on So. Boulder C'k, Col.	31 School, Boston.
Nevada Star				25 Pine, N. Y.
New England	50,000	150,000	Black Hawk, Col.	J. Weatherbee, Jr., Boston.
New Mexico			near SantaFe	
New Gregory				W. A. Kent, 144 State, Boston
New York City	50,000	5,000,000	G'd Canon D't, Land. co. Nev.	10 Pine, N. Y.
New York Dist.	50,000	500,000	Austin, N. Y. Dist., Nevada.	71 B'way, N. Y.
New York of Col	00,000	1,000,000	Colorado	F. E. Roelfson, 74 B'way, N. Y
N. Y. & Nevada	100,000	1,000,000	Nevada	J. J. Osborn, 39 Pine, N. Y.
N. Y. G Min'g	100,000	1,000,000	Colorado	F. E. Roelofson, 78 & 80 B'way.
N. Y. & Eldor'do	250,000	2,500,000	Nevada	G. H. Munroe, 106 B'way, N. Y.
N. Y. & Idaho			Idaho	180 Chatham, N. Y.
N. Y. & Santa Fe			Nevada	New York.
N.Y. & Owyhee		1,000,000	Owyhee co., Idaho	6 Pine, N. Y.
N. Y. & Oro Fino	10,000	1,000,000	Owyhee co., Idaho	157 Broadway, N. Y.
N. Y. & Reese R.			Reese R.	New York.
N. Y. & Renfew				2 Murray, N. Y.
N. Y. & Washoe			Nevada	New York.
North Clear C'k	100,000	1,000,000	Gilpin co., Col.	J. Francis, 80 B'way, N. Y.
Nova Scotia				Chas. Barrett, 13 Doane, Boston
N. Y. & Nova Sc	100,000	1,000,000	Tangier, Nova Scotia	Jos. E. Gay, 3 Hanover, N. Y.
National S Min'g		1,500,000	Owyhee co., Idaho	115 B'way, N. Y.
Occidental	5,000	500,000	Nevada & Ills. C. Dist., Col.	100 B'way, N. Y.
Oldham				Chas. Barrett, 13 Doane, Boston.
Ophir	62,500	625,000	on Comstock Lode, Nevada.	Moses A. Hopkock, 45 William.
Pacific	40,000	4,000,000		24 Pine, N. Y.
People's	100,000	5,000,000	Alpine & Sierra cos.	23 Nassau.
Peck				E. R. Sawyer, 144 State, Boston.
Perigo	60,000	3,000,000	Ind. Dist., Gilpin co., Col.	J. W. Stratton, 90 B'way, N. Y.
Pine Mountain	30,000	3,000,000	Pine Mountain Dist., Nev.	F. K. McCully, 157 B'way, N. Y.
Pioneer & Inskip			Buena Vista Dist., Nevada.	15 Nassau, N. Y.
Phila. & Color'do	20,000	1,000,000	Central City, Col.	E. W. Clark & Co., Phila.
Phelps & Gilm're	200,000	1,000,000	Colorado	W. H. Steudevant, 25 Nassau.
Pleasant Valley	125,000	1,250,000	Colorado	J. S. Lyon, 69 Wall, N. Y.
Pontiac	50,000	1,000,000	Ill. Cen. M Dist., Col.	R. H. Rickard, 19 Nassau.
Prescott	100,000	1,000,000	Central Arizona	69 B'way, N. Y.
Quaker City			Ind't D't, G'd D't City, Col.	103 South Third, Phila.
Quartz Hill	40,000	100,000	Nevada Dist., Col.	J. A. Tyler, 29 Wall, N. Y.
Ranche C'k	10,200	1,200,000	Pine Wood Dist., Nevada	18 Broad, N.Y.
Realito		1,600,000	G'd Hill D., Storey co., Nev.	117 B'way, N. Y.
Reese River Pr'l	100,000	1,000,000	AmadorDist., Landor Co., Nev	Elijah Alliger, 67 Wall, N. Y.
Renfrew				W. Stockbridge, 74 F'klin, Bos'n.
Republic	15,000	1,500,000	Amador D., Lander co., Nev.	67 Exchange Pl., N. Y.
Rocky Mountain	50,000	500,000	Grey & Empire Dists., Col.	E. L. Bolles, 70 B'way, N. Y.
Reciprocity	100,000	1,000,000	Canada East	B. B. Grant, Jr., 71 B'way, N. Y
Scorpion			Virginia City, Nevada	617 Clay, San Francisco.
Sherbrooke	100,000	1,000,000	Sherbrooke, Canada East	F. Schumacker, Cliff, N. Y
Silas Wright	60,000	600,000	Amador D., Lander co., Nev.	18 Wall, N. Y.
Silver State	100,000	500,000	Humb't Starr, Pr. R. D Humb't co., Nevada	R. S. Miller, 49 William, N. Y
Silver Wave	300,000	3,000,000	Reese R., Lander co., Nev.	Emmet Blair, 243 B'way, N. Y
Smith & P'rmlee	125,000	2,500,000	Colorado	G. A. Lathrop, 4 Broad, N. Y.
Smithfield	100,000	400,000	Gilpin Co., Col.	A. F. Baum 48 Broad st., N. Y.
Spanish		3,000,000	La Plata, Churchill co., Nev.	228 South Third, Phila.
So. Clear C'k			Colorado	Canastota, N. Y.
Starlight Ledge	50,000	500,000	P'ville, El Dorado co.	
Star of Color	200,000	2,000,000	Colorado	J. N. Powers, 22 Pine, N. Y.
Standard	50,000	500,000	Gregory Dist., Col	T. A. Mitchell, 70 B'way, N. Y
Steptoe	20,000	2,000,000	G'd Can., Lander co., Nev.	10 Pine, N. Y.
Sterling City		1,200,000	Colorado	New York.
Stewart	100,000	500,000	Colorado	C. Durham, 31 Exchange, Boston
Suffolk				Carlos Cobb, 22 William, N. Y.
Southard				Wm. Wallace, 11 Doane, Boston.
Stafford				C. E. Jackson, 15 Central, Boston
Tascher	100,000	1,000,000	Colorado	F. J. Wright, 8 Wall, N. Y.
Texas	50,000	500,000	Black Hawk City, Colorado.	Wm. E. Parish, 155 B'way, N. Y
Trianfo			San Antonio, L. Cal.	San Francisco.
Union	240,000	12,000,000	Colorado	F. A. Potts, 110 B'way.
United States	75,000	1,500,000	Colorado	J. P. Stevens, N. Y.
University				31 Nassau, N. Y.
Virginia City	250,000	250,000	Nevada	J. B. William, 78 & 80 B'way.
Wauba Yuma	600,000	6,000,000	Arizona	35 William, N. Y.
Waddingham	48,000	1,200,000	Alturas co., Idaho	Jas. K. Selleck, 157 B'way, N.
Waverley				J. Leighton, 97 State, Boston
Windsor Gold M	10,000	100,000	Colorado	25 William, N. Y.
Wilson & Cass			Colorado	New York.

LEAD.

COMPANY.	SHARES.	STOCK.	SITUATION OF MINE.	SECRETARY & PLACE OF BUSINESS.
Amenia	100,000	$ 500,000	Duchess co., N. Y.	G. Furman, 77 Cedar, N. Y.
Bucks County	10,000	200,000	Bucks co., Pa.	R. R. Sinclair, 53 Ex. Pl., N. Y.
Canada	40,000	250,000	Canada	Alb. Case, 7 Phe'x B'l'g, Boston.
Clute	150,000	550,000	Macomb T. St. Law. co., N. Y.	Bev'l'y S. Merrill, 42 Cedar, N.Y.
Continental	200,000	500,000	Martinsburg, N. Y.	J. Sickles, 57 Ex. Pl., N. Y.
Eastport	100,000	1,000,000	Eastport, Me.	R. Vose, 54 William, N. Y.
Erie	40,000	4,000,000	Orange co., N. Y.	Ogden Gaul, 25 Pine, N. Y.
Hampton	100,000	500,000	Hampshire co., Mass.	C. W. Bryant, Boston.
Jefferson				65 Wall, N. Y.
King's Hill	0,000	50,000		W. L. Haskin, 180 B'way, N. Y.
Lake Superior	200,000	1,000,000	Secs. 5 & 36 T., 49 & 50 R., 28 & 29 Marquette co, Mich.	C. L. Mather, N. Y.
Lancaster	50,000	250,000	Lancaster co., Pa.	J. R. Sibley, 35 Pine, N. Y.
Macomb	10,000	550,000	Macomb T. St. Law. co., N. Y.	C. E. Scofield, 42 Cedar, N. Y
Maine	50,000	500,000	Eastport, Me.	A. L. Butler, 54 William, N. Y.
Mineral Point	100,000	500,000	St. Lawrence co., N. Y.	H. W. Warren, 60 City Ex., B'stn.
Morgan	100,000	500,000		W. Williams, 42 Cedar, N. Y.
Nanhan				40 B'way, N. Y
Mount Hope	80,000	200,000	Mt. Hope, Orange co., N. Y.	W. Williams, 24 Pine, N. Y.
New Hampshire	100,000	500,000	New Hampshire	W. A. Farrar, 71 B'way, N. Y.
N. Y. & Boston		1,000,000	Chester co., Pa.	S. M. Cockein, 22 William, N. Y.
Oswegatchie				24 Pine, N. Y.
Owens Lake	50,000	250,000		C. W. Bond, 78 Cedar, N. Y.
Phœnix	50,000	250,000	Columbia Co., N. Y.	G. W. Butler, 54 William, N. Y.
Placentia Bay	200,000	1,000,000	Newfoundland	J. Simpkins, 29 Wall, N. Y.
Ramsay	20,000	500,000	Township Ramsay, C. W.	C. W. Bryant, Boston.
Rochester	200,000	500,000		J. A. Ferguson, 8 Wall, N. Y
Rossie				24 Pine, N. Y.
Rosa Clara	100,000	1,000,000		H. Lathrop, 25 Nassau, N. Y.
St. Clair	100,000	1,000,000		H. B. Hawkins, 25 Nassau, N. Y
St. Joseph	100,000	1,000,000	St. Francis Co., Missouri.	Jas. R. Knapp, 6 Broad, N. Y.
Shawangunk	100,000	500,000	Mt. Hope, Orange co., N. Y.	E. P. Ackerman, 48 Pine, N. Y
Sussex	25,000	625,000	Sparta Town, Sus'x co., N. J.	F. H. Stow, 53 Cedar, N. Y.
Walkill			Orange co., N. Y.	W. A. Scott, 11 Wall, N. Y.
Warren			Warren, Gratton co., N. H.	J. S. Christie, 100 B'way, N Y
White Mountain			New Hampshire	111 B'way, N. Y.

SILVER.

COMPANY.	SHARES.	STOCKS.	LOCATION OF PROPERTY.	SEC'Y AND PLACE OF BUSINESS.
Amazon	25,000	$250,000	Nevada	W. L. Louther, 134 So. 3d, Phil.
Argentine	50,000	250,000	Argentine Dist., Colorado	D. L. Demmon, 134 State, Boston
Arizona	100,000	10,000,000	22 m W of Tubac, Arizona	J. B. Randol, 25 Nassau, N. Y
Astor	200,000	1,000,000	On Comstock Lode, Nev	J. Chapman, 71 Broadway, N. Y.
Atlantic & Pac.	50,000	1,000,000	Humboldt T, Hum't Co, Nev.	J. N. Sewall, 8 Broad st., N. Y.
Big Smoky	20,000	600,000	Smk'y Hill, Lander Co. Nev.	71 B'way.
Black Eagle	7,000	350,000	Carson, Owyhee co., Idaho	O. D. Gardner, 40 Maiden lane.
Bullion	200,000	1,000,000	Bannock, Montana	55 Liberty street.
Bush	50,000	500,000	Austin City, Nevada	176 Chambers st., N. Y.
Combination	5,000,000	50,000	Nevada	J. W. Stoute, Jr., 155 B'way, N.Y
Colorado Con			Cedar Hill Nevada	New York.
Columbia	30,000	3,000,000	Austin City, Nevada	J. E. Smith, 10 Pine street, N. Y.
Conn. & Nevada	120,000	1,250,000	Averill, Churchill Co. Nev.	49 Liberty street, N. Y.
Commonwealth	200,000	2,000,000	Gold Hill, Nevada	78 B'way, N. Y.
Cosmos	10,000		Owyhee Co, Idaho	137 Broadway, N. Y.
Del Norte & S'br			Lower California	New York.
Durango	5,000	500,000		W. R. Garrison, 73 W'm st., N Y.
East Bannack	100,000	200,000	Bannock City, Montana	J. Callender, 49 Ex. P., N. Y.
Empire G. & S.	100,000	10,000,000	Bodie Bluff, Mono	H. R. Gates, 191 Broad'y, N. Y.
Empire and Silver State	20,000	2,000,000	Reese River Dist., Nevada	57 B'way, New York.
Eldorado	500,000	2,500,000	San A 90 m s of Austin, Nev.	208 South Fourth street, Phila.
Essex & Diadem	125,000	2,500,000	Sierra dis, Humboldt C. Nev.	A. R. Wetmore, 81 Vesey st, N.Y.
Franklin			Nevada	Philadelphia.
Gem	200,000	1,250,000		H. K. Gates, 191 B'way, N. Y.
Globe	100,000	500,000	Austin, Nevada	J. W. Brazier, 26 Pine, N. Y.
Good Hope	20,000	1,000,000	40 m S of Austin, Nevada	80 Broadway, N. Y.
Huron			Montano	New York.
Incas	300,000	300,000	Summit co., Colorado	J. P. Whitney, 19 Lindall, Bost.
Knickerb'r and Nevada	20,000	2,000,000	Union Dis. Nye Co, Nev.	H. R. Shotwell, 70 Cedar, N. Y.
Lander Hill			Nevada	74 B'way, New York.
Lincoln		1,000,000	Owyhee Co, Idaho	80 Broadway, N. Y.
Lw'r California	40,000	2,000,000	North Part of Lower Cal.	55 William street, N. Y.
Madison	30,000	3,000,000	Nevada	W. W. Perkins, 71 Bd'wy, N. Y.
Macedon			Nevada	Philadelphia.
Manhattan			Nevada	57 B'way, New York.
Merchants	30,000	600,000	Alturus Co. Idaho	157 Broadway, N. Y.
Metropolitan	15,000	1,500,000	Austin City, Nevada	158 Broadway, N. Y.
Morning Star	5,000	5,000,000	Owyhee County, Idaho	137 Broadway, N. Y.
Mount Vernon	500,000	5,000,000	Mount Vernon & Mammoth District, Nevada	New York.
Mount Vista	50,000	500,000		J. Chapman, 71 Bway, New York.
National	15,000	1,500,000	Owyhee Co. Idaho	115 Broadway, N. Y.
Nevada	100,000	300,000	Mountain Wells, D. Ch. co. Nev	323 Walnut street, Phila.
Nevada	20,000	1,200,000	Nevada	E. L. Bolles, 74 B'way, N. Y.
New Y'k & Ione	20,000	2,000,000	Ione City, Nye Co., Nev.	71 Broadway, N. Y.
New York	1,500	1,500,000	Austin, Nevada	S. R. Hutchinson, 80 B'way, N.Y.
New York City	50,000	5,000,000	Gold Can Dist. Lander Co. N.	10 Pine street. New York.
New Y'k Dis'ct	50,000	5,000,000	80 m f'm Austin, N. Y. Dis. Nevada	S. A. Hopkins, 71 Broadway, N Y
New Y'k & Nev.	10,000	1,000,000	Nevada	J. J. Osborn, 30 Pine street, N. Y.
N. Y. & Owyhee		1,000,000	Owyhee Co. Idaho	6 Pine street, New York.
N. Y. & Oro Fino	10,000	1,000,000	do. do.	137 Broadway, New York.
N. Y. and Silver Peak	20,000	2,000,000	Nye County, Nevada	R. C. Root, 74 Broadway, N. Y.
N Y. & Santa Fe			Nevada	New York.
N. Y. & Washoe			Nevada	New York.
North Am. M'g.			Nevada	Philadelphia.
Ocean Transit		1,500,000	Lower California, Mexico, On Comstock Lode, Nev	24 Pine, N. Y.
Ophir				
Pah Ranagat C'l.	50,000	5,000,000	Nevada	26 Pine, N. Y.
People's	100,000	500,000	Alpine & Sierra Counties	8 Pine street, New York.
Phœnix	200,000	2,000,000		48 East 26th street, New York.
Picacho	50,000	2,000,000	Arizona	T. H. Perkins, New York.
Pine Mount'n	30,000	3,000,000	Pine Mount'n Dist. Nev	F. K. McCulley, 100 Bd'way, N. Y.
Pioneer & Inskip			Buena Vista Dis., Austin, Nev	15 Nassau street, New York.
Prescott	50,000	2,500,000	Arizona	T. H. Perkins, New York.
Presidential	125,000	2,500,000	Austin, Nevada	Wm. Lemmon, 17 Broad, N. Y.
Republic	15,000	1,500,000	Amador, D Lander Co. Nev.	67 Ex. Place, New York.
Revenue Exten.	50,000	500,000	Lander County, Nevada	W. L. Kite, 142 South 4th, Phila.
Rosario & Carmn	5,244	1,480,000	Sinaloa, Mexico	San Francisco.
San Antonio	60,000	3,000,000	Arizona	C. Lamson, 21 Nassau st., N. Y.
Seminole	7,000	1,500,000	Union v., Humboldt Co. Nev.	L. G. Wilkin, 119 B'way, N. Y.
Silas Wright	60,000	600,000	Amador, D Lander Co, Nev.	18 Wall street, New York.
Silver Hill	40,000	1,000,000	Nevada	J. C. Hitchcock, 62 B'dway, N.Y.
Silver Series		1,000,000	Lander Co., Nevada	W. B. Rogers, 117 B'way, N. Y.
South Boise, P. Co.	200,000	2,000,000	Alturas Co., Idaho	A. M. Palmer, 19 Broad st., N. Y
Star Hill	20,000	1,000,000	Nevada	155 B'way.
St'h Cl' Crk			Colorado	Canastota, New York.
Stephenson	500,000	1,000,000	18 m E of Ft. Filmore	A. S. Kellogg, 22 Pine, New York.
Steptoe	20,000	2,000,000	Gold Can. Lander Co. Nev.	10 Pine. New York.
Sterling City		1,200,000		New York.
Tarshish	12,000	1,200,000	Toryabee Range, Un. D., Nev	H. S. M'Collum, 78 B'way, N. Y
Tempest	200,000	1,000,000		L. Bangs, 17 Nassau, N. Y.
Trumfo			San Antonio, Lo'wr Cal.	San Francisco.
Toiyabee	50,000	5,000,000	Pine W'd, Mu'tn Dis. Nev.	J. M. Brown, 157 B'wy, N. Y.
Union & El D'o.	100,000	1,000,000	Mogul Silver Mu'tn	40 Park Row.
Upper Missouri.		100,000	Montana	107 Broadway.
Vedder	21,000	2,100,000	Amador Dist., Nevada	L. G. Bingham, 80 B'way, N.Y.
Wamba Yuma	600,000	6,000,000	Arizona	35 William street, New York.
War Eagle	50,000	200,000	Owyhee Co., Idaho	G. M. Eldridge, 144 S. 4th, Pl.
Washington	22,500	2,250,000	Austin, Nevada	S. R. Hutchinson, 80 B'way, N.Y
White Mountain			New Hampshire	111 Broadway, New York.

COPPER.

COMPANY.	SHARES.	CAPITAL.	SITUATION OF PROPERTY	SEC'Y., AND PLACE OF BUSINESS.
Astor,	20,000	500,000	Michigan,	Pittsburgh.
Adventure,	20,000	1,000,000	Parts of Sections 35, 36, T. 51, N Range 38 W,	F. W. Chapen, 44 Ex. Pl., Boston. W. H. Smith, 51 Ex. Pl, N. Y.
Etna,	20,000	500,000	1226 A in Secs. 6, 7, 18, T. 58, N R 28, W Keweenaw co. Mich.	B. A. Hoopes, 324 Walnut St. Phil.
Alb'ny & Bost'n,	20,000	1,000,000	Secs 7, 8, 9, 10, 11, T. 55, R. 33	Fred. Beck, 43 City Ex., Boston.
Anita,	20,000	500,000	Del Norte co., California,	8 Wall St., N. Y.
Algomah,	20,000	500,000	W½ S, 30, T. 51, R. 37,	L. W. Clark, Boston.
Allouez,	20,000	500,000	Town 57, R. 32. Sec. 31,	Horatio Bigelow, Boston.
Amy gdl'yd'l.,	20,000	500,000	E½ Secs. 16, 21, T. 58, R. 30, NW¼ Sec. 5, T. 57, R. 31, 160 A,	F. H. Womrath, 324 Walnut St., Philadelphia.
Arcadian,	20,000	500,000	NW¼ Sec. 20, T. 57, R. 33, 160 A,	C. P. Dixon, 48 Pine St. N. Y.
Atlas,	20,000	500,000	NE¼ of E½ & NW¼ of NW¼ Sec. 31, T. 57, R. 31,	L. W. Clark, Boston.
Aztec,	20,000	500,000	W½ Sec 31, T. 51, N. of R. 37,	L. W. Clark, Boston.
Bay State,	20,000	500,000	SW¼ Sec. 29, T. 58, R. 31,	L. W. Clark, Boston.
Bohemian,	20,000	500,000	E½ Sec. 31, NW¼ Sec. 32, T. 51, R. 37, W,	R. H. Rickard, 21 Nassau St., N.Y.
Boston,	20,000	500,000	Michigan,	H. W. Warren, 60 City Ex., B'st'n.
Canada,	20,000	500,000	Brome co., Canada East,	H. P. Mount, 3 Hanover St., N. Y.
Calumet,	20,000	500,000	Michigan,	Boston.
Concord,	20,000	500,000	Michigan,	Boston.
Carp Lake, M.,	20,000	500,000	T. 51, N. R. 43, W. S½ of N½ of N. Sec. 14, and E½ Sec. 23, and NE¼ Sec. 23, 440 A.	W. H. Abel, 70 Wall St., N. Y.
Cascade, M.	20,000	500,000	SW¼ Sec. 9, T. 49, N. R. 39, W, in Ontonagon co., Mich.,	G. F. Riley, 35 Wall St., N. Y.
Copper Creek,	1,000	$100,000	Missouri,	H. M. Thompson, Missouri, Mo.
Copper Falls,	20,000	500,000	Sec. 14, T. 58, N. R. 31, W, Keewenah Point,	97 State, Boston.
Copper Harbor,	20,000	500,000	S½ Sec. 10, T. 58, R. 28, 320 A, Keewenah co.,	Fred. Beck, 43 City Ex., Boston.
Copper Creek,	20,000	500,000	Douglas co., Wisconsin,	T. B. Lawson, 71 Broadway, N. Y.
Central,	20,000	500,000	E½ Sec. 23, T. 58, N. R. 31, W,	J. Stanton, Jr., 25 Nassau, N. Y.
Cornwall,			Strafford, Orange co., Vt.,	D. H. Whitney, 17 State St., B'n.
Continental,	200,000	500,000	Martinsburg, New York,	J. Sickles, 50 Ex. Pl., N. Y.
Corinth,	20,000	500,000	Corinth, Orange co., Vermont,	W. A. Cleveland, 191 B'way, N.Y.
Copper Hill,			Wisconsin,	Boston.
Dacotah,	20,000	500,000	Sec. 35, T. 55, R. 34, Portage Lake,	J. M. Cooper, Milk St., Boston.
Delaware,	20,000	500,000		S. M. May, 326 Walnut St., B'st'n.
Dorchester,	20,000	500,000	Michigan,	31 and 32 City Ex., Boston.
Douglas,	20,000	500,000	E½ Sec. 30, T. 55, R. 3,	S. J. Edwards, William St., N. Y.
Dudley,				H. Bigelow 43, City Ex., Boston.
Eagle River,	20,000	500,000	T. 58, R. 31, Secs. 28, 29, 33, 34,	A. Lanson, 70 State St., Boston.
Ely,	00,000	500,000	325 A., Richmond, Canada East,	Ernest Sacchi, 82 B'way, N. Y.
Empire,	20,000	500,000	1798 A., Secs. 1, 2, 11, 12, T. 58, N. K. 28, W. K'w'n co., Min.,	J. S. McMullin, 423 Walnut, Phil.
Eureka,	20,000	500,000	W½ Sec. 2, T. 49, N. R. 41, W. Ontonagon co.,	H. Shirley, 137 B'way, N. Y.
Evergreen Bluff,	20,000	500,000	NE¼ Sec. 6, T. 50, R. 38,	F. W. Capen, 44 Ex. Pl., N. Y.
Edwards' Copper	20,000	500,000	Michigan,	H. K. Thomas, 12 Wall, N. Y.
Eagle Harbor,	20,000	500,000	Michigan,	51 Ex. Place, New York.
Frue,	20,000	500,000	Michigan,	A. S. Kellogg, 22 Pine st., N. Y
Flint Steel R.,	20,000	500,000	Sec. 11, 12, T. 50, N. R. 39, W,	F. K. McCully, 157 B'way, N.Y.
Forest City,	20,000	500,000	320 A. NE¼ Sec. 36, and SE¼ Sec. 25, T. 51, R. 43,	J. F. Paul, 19 Phœnix Building, Boston.
Franklin,	20,000	500,000	¼ Sec. 24, T. 55, N. R. 31 W.,	C. Emery, 26 Kilby St., Boston.
Franconia,	60,000	300,000	New Hampshire,	J. Hanna, 162 Fulton St., N. Y.
French Creek,	00,000	600,000	Chester co., Pennsylvania,	R. Roberts, 19 Nassau St., N. Y.
Garden City,	20,000	500,000	SW¼ Sec. 60, N. W. Sec. 59, T. 58, N. R. 31 W.	R. H. Howe, Chicago.
Girard,	20,000	500,000	600 A. Sec. 15, T. 58, N. R. 28, W. Keweenaw co., Mich.,	B. A. Hoopes, 324 Walnut, Phil.
Gr'd Portage,	20,000	500,000	SW¼ Sec. 36, R. 34, W,	A. S. Kellogg, 22 Pine St., N. Y.
Great Western,	20,000	500,000	SE¼ Sec. 30, & SW¼ Sec. 29, T. 21, K. 320 A., Ontonagon	J. M. Cooper, 24 Citty Ex., B'st'n.
Hamilton,	20,000	500,000	SE¼ Sec. 35, S½ Sec. 36, T. 50, R. 41, SW¼ Sec. 21, R. 20, 14¼ A.,	J. B. Townsend, 44 Exchange, N. Y.
Hancock,	20,000	500,000	SW¼ Sec. 26, Tract of Sec. 25, T. 5, R. 34, W.,	Fred. Beck, 43 City Ex., Boston.
Hanover,	20,000	500,000	Michigan,	do. do. do. do.
Hartford,	20,000	500,000	320 A. E½ & SE¼ Sec. 32, SW¼ & W½ Sec. 33, T. 50, R. 40, W,	T. M. Tyng, 61 Cedar St., Boston.
Henwood,			Michigan,	57 Broadway, N. Y.
Hope,	20,000	500,000	240 acres in T 57, R 32, Kw co.	19 Nassau St., New York.
Humboldt,	20,000	500,000	Sec. 21, T. 58, R, 31, W,	Hor. Bigelow, 43 City Ex., B'st'n.
Huron,	20,000	500,000	Sec. 2, T. 54, R. 34, W,	Hor. Bigelow, 43 City Ex., B'st'n.
Hilton,	20,000	500,000	Michigan,	W. H. Smith, 51 Ex. Place, N. Y.
Indiana Copper,	20,000	500,000	Michigan,	25 Nassau st.
Isle Royale,	20,000	1,000,000	NW¼ Sec. 1, T. 54, R. 34, W,	F. W. Chapen, 33 Ex. Pl. Boston.
Keweenaw,	20,000	500,000	Michigan,	F. W. Chapen, 44 Ex. Pl., Boston.
Knowlton,	20,000	500,000	SE¼ Sec. 1, W½ of SW¼ Sec. 1, and other lands,	44 Ex. Pl., N. Y.
Lafayette,	20,000	500,000	Secs. 25, 30, 36, T. T. 51, N. R. 43, and 44, W, Ontonagon,	P. C. Blancan, 35 Wall St., N. Y.
Lyster,	200,000	$400,000	Township Nelson, Canada East,	H. W. Nelson, 24 City Ex., B'st'n
Lower California	40,000	2,000,000	N. part of Lower California,	55 William St., N. Y.
Madison,	20,000	500,000	Part sec. 18, 19 entire. 30. 31.	Fred. Beck. 43 City Ex., B'st'n.
Merryweather,	20,000	500,000	Secs. 9, 19, T. 48, N. R. 4, W.	J. T. Waters, New York.
Mandan,	20,000	500,000	680 A. Secs. 8, 17, 19, 30, T. 58, N. R. 29, W., Keweenaw co., Min.,	B. A. Hoopes, 324 Walnut, Phil
Manhattan,	20,000	500,000	W½ Sec. 11, NW¼ Sec. 14, T. 58, N. R. 32, W, 360 A.	J. W. Davies, 21 Nassau St., N.Y
Mendotta,	100,000	500,000		M. Taylor, 30 Wall St., N. Y.
Mass. M. Co.,	20,000	500,000	SW¼ Sec. 7, T. 50, N.R. 38, W,	J. M. Cooper, Pittsburgh.
Mesnard,	20,000	500,000	NE¼ Sec. 24, T. 55, R. 34, Calaveras co.,	L. Burr, 12 Phœnix B'gs, Boston.
Melones & Stan.,				606 Mont St., San Francisco
Minnesota,	20,000	1,000,000	Sec. 15, T. 50, N. R. 39, W,	S. M. Pond, 12 Pine St., N. Y.
Maryland,			Maryland,	Baltimore.
Medora,	20,000	250,000	Michigan,	Pittsburgh.
Michigan,	20,000	300,000	Michigan,	W. H. Smith, 51 Ex. Place, N.Y.
Merrimac,	20,000	500,000	NW¼ Sec. 34, T. 51, R. 38, W, Ontonagon,	J. M. Mills, 284 Pearl St., N. Y
National,	20,000	300,000	Sec. 16, T. 50, R. 39, W, 1,988 A.	J. M. Cooper, Pittsburgh.
Nequakett,	20,000	500,000	Sec. 26, T. 51, R. 43,	
New Burra,			Baltimore.	R. Roberts, 19 Nassau St., N. Y.
New Jersey Con.	100,000	1,000,000	New Jersey,	W. Bowes, 68 Wall St., N. Y.
N. Y. & Passaic,	100,000		Harrison, Bergen c.,	T. H. Belt, Jr. 23 William St. N.Y
New Devon,				T. H. Belt, Jo, do. do.
North Western,	20,000	300,000	W½ Secs. 24, 25, 26, E½ Secs. 36, 35, T. 58, N.R. 31,	17 William St., N. Y. J. M. Cooper, Boston and Detroit.
North Cliff,	20,000	200,000	Michigan.	Pittsburgh,
Norwich,	20,000	500,000	Secs. 11, 12, T. 40, N.R. 39, W. and other lands, 1,300 A.,	P. C. Blancan, 35 Wall St., N. Y.
Ogima,	20,000	500,000	NW¼ Sec. 6, T. 50, N.R. 33, W.	G. E. Leffingwell, 7 Pine, N. Y.
Ontonagon,	20,000	500,000	631 A. Secs. 20, 21, 28, T. 50, N. R. 39, W. Rockland,	G. Hart, 11 Pine Street. N. Y.
Otisville,	100,000	500,000	Otisville, Orange co., N. Y.,	C. Windsor, 60 Wall St., N. Y.
Penn. Manuf'g.,	20,000	1,000,000	4,320 A. Secs. 13, 14, 15, 24,	
Petherick,	20,000	500,000	Michigan,	Boston,
Phœnix,	20,000	500,000	Michigan, ¼ Secs. 10, 11, 12, 23, 25, T. 58, N. R. 30, W.,	Boston, S. M. Day, 326 Walnut St., Phil.
Pewabic,	20,000	500,000	W½ Sec. 25, T. 55, N.R. 34, W.	C. Emery, 39 State, Boston.
Pitts. & Boston,	20,000	150,000	Ts. 58, 57, N. R. 31, 32, W. 12,495 A.,	H. A. Johnston, Pittsburgh.
Pontiac,	20,000	500,000	SE¼ Sec. 13, T. 55, N. R. 31, W.	C. Emery, Kilbey St., Boston.
Prescott,	100,000	1,000,000	Central Arizona,	69 Broadway, N. Y.
Providence,	20,000	500,000	240 A. in Keweenah co., NW½ Sec. 10, W½ NW¼ Sec. 10, T. 57, R. 32, W.	J. W. Davis, 21 Nassau St., N. Y.
Phila. & Boston,	20,000	500,000	640 A. Sec. 14, T. 58, N. R. 28, W. Keweenaw co., Mich.	J. S. McMullin, 423 Walnut St., Boston.
Quincy,	20,000	500,000	Sec. 26, T. 54, N. R. 34, W,	W. H. Smith, 51 Ex. Pl., N. Y.
Republic,	8,000	200,000		H. Baldwin, 70 Wall St., N. Y.
Reliance,	20,000	500,000	Secs. 21, 22, 27, T. 58, N. R. 28, W, 10,785 A.	H. K. Thomas, 11 Wall St., N. Y.
Rochester,	200,000	500,000		J. A. Ferguson, 8 Wall St., N. Y.
Rhode Island,	20,000	500,000	Michigan.	New York.
Ridge,	20,000	500,000	Sec. 35, T. 51, R. 38, W,	51 Exchange Place, N. Y.
Rockland,	20,000	500,000	Sec. 11, T. 50, R. 39,	S. J. W. Barry, 71 B'way, N.Y.
Resolute,	20,000	500,000	1,120 A. Secs. 7, 18, 19, T. 58, N. R. 29, W. Keweenaw co., Mich.,	
St. Mary,	20,000	500,000		F. Beck, 45 City Ex., Boston.
St. Margaret,	200,000	1,000,000	Canada,	E. B. Sutton, 43 Pine, N.Y.
Saint Clair,	20,000	500,000	Michigan,	Boston,
Sharon,	20,000	500,000	Ontonagon co., Mich.,	P. C. Blancan, 35 Wall St., N. Y.
Sheldon & Col.,	20,000	500,000	SE¼ Sec. 36, T. 55, R. 34, W, SE¼ Sec. 34, T. 55, R. 34, W, T. 58, 59, N. R. 28, 30 W,	S. J. Edwards, 22 W'm. St., N. Y
South Side,				H. W. Nelson, Boston.
Societe Fran'se,	10,000			Copper Harbor.
Superior,	20,000	500,000	W¼ Sec. 14, T. 50, N.R. 39, W.	S. J. W. Barry, 12 Pine St., N. Y
Toltec Consol.,	20,000	500,000	Secs. 25, 26, R. 50, R. 36, Wisconsin,	H. W. Nelson, Boston. 17 William St., N. Y.
Ural,				
Vulcan,	20,000	500,000	1,120 A. Secs. 7, 17, 18, T. 58, N.R. 27, W. Keweenaw co.,	F. K. Womrath, 324 Walnut, Phila.
Victoria,	20,000	500,000	Secs. 20, 29, 30, 34, T. 50, R. 39, and other lands.	L. W. Clarke, Boston.
W. Minnesota,	20,000	500,000	Secs. 17, 18, 19, T. 50, N. R. 39, W.,	C. T. Howard, Boston.
Wickopee,	100,000	500,000	Massachusetts,	G. A. Sneden, 12 PineSt., N. Y
Vermont,	100,000	500,000	W. Fairlee, Orange co., Vt.,	191 B'way, N. Y.
Wauia Yuma,	600,000	6,000,000	Arizona,	35 William St., N. Y.
Winthrop,	20,000	500,000	Michigan,	Boston

S, means section; T, township, R range.

AMERICAN
Journal of Mining.
[ILLUSTRATED.]

GEORGE FRANCIS DAWSON,
EDITOR

By publishing contributions, the JOURNAL OF MINING *does not necessarily endorse the positions assumed by contributors.*

OFFICE, 37 PARK ROW, NEW YORK.

Published Every Saturday Noon.

TERMS:

SUBSCRIPTION.		ADVERTISING.	
Per annum, one copy -	$4 00	One line [Nonp.] 1 inser'n.	$0 30
Six months, one copy -	2 25	One Square, 10 lines, one do	2 00
Three months, one copy -	1 25	One Square, do. four do.	5 00
Single copy -	10	One Square, do. one year,	40 00

Canadian subscribers 25 cents extra for postage.

☞ Specimen copies sent free.

☞ Liberal reductions to permanent advertisers.

DESIGNING, LITHOGRAPHING, WOOD ENGRAVING, and JOB PRINTING Executed in elegant style, on reasonable terms.

Address **WESTERN & COMPANY, Proprietors,**
No. 37 Park Row, and No. 145 Nassau Street, New York City.

AGENTS,
AUTHORIZED TO RECEIVE SUBSCRIPTIONS AND ADVERTISEMENTS.

☞ *No persons have authority to receive money and receipt for the same on Western & Company's account except those mentioned below.*

COLORADO.—GEO. TRITCH, Denver City.
" W. S. STANLEY, JR., P. M. Mill City, Clear Creek Co.
" S. M. RICHARDS, City Book Store, Central City.
" R. C. MILES, P. M., Golden City, Jefferson county.
CALIFORNIA.—W. E. LOOMIS, San Francisco.
MASSACHUSETTS.—S. M. PETTENGILL & Co., Boston, Mass.
MEXICO.—Messrs. B. C. BARKSDALE Y CIA., proprietors of the American and Mexican News Company, and Agencia General de Libros, City of Mexico, Primera Calle de San Francisco, No. 13; Vera Cruz: Calle de Maria Andre, No. 627.
In Guanajuato, Real del Monte, Guadalajara, Durango, San Luis Potosi, and all other mining districts of Mexico, the correspondents of Messrs. B. C. Barksdale y Cia. are the only authorized agents of the JOURNAL.
PENNSYLVANIA.—A. WINCH, Philadelphia, Pa.

☞ Correspondents, exchanges and others addressing us should be *extremely careful* to write "JOURNAL OF MINING," instead of "MINING JOURNAL," to ensure safe carriage.

NEW YORK, SATURDAY, OCTOBER 20.

Contents of this Number.

EDITORIALS.—Let us Learn from Our Neighbors—New School of Mines—This Picture and That—A British Query Answered—Pacific Railroad Progress—Statesmen Among the Iron-workers.
ORIGINAL PAPERS.—Lead Fields of the Upper Mississippi.
ILLUSTRATED MACHINERY—The Steam Syphon Pump.
SCIENTIFIC MEETINGS.
MINING SUMMARY.—Latest news from Nevada, Michigan, Montana, California, Colorado, Louisiana, Utah, Ohio, New York, New Hampshire, Massachusetts, Rhode Island, Australia, Nova Scotia, New Brunswick, La Plata, Costa Rica.
MICELLANEOUS.—A New Motive Power: Peas—"Dips, Angles and Variations"—Primitive Iron-Workers—Gas Supply—Separating Phosphorus from Metals—New Explosive Agents—Poetry: "A Song for the Stock Exchange."
SPECIAL SCIENTIFIC BREVITIES.
MINERAL AND OTHER ON-DITS.
ALL SORTS.
MINING COMPANY MEETINGS—DIVIDENDS.
PATENT CLAIMS.—Important to Mill Men, Miners, Metallurgists, Oil Men, etc.
TABULAR MATTER.—Gold, Copper, Lead and Silver Mining Companies; Names, No. of Shares, Capital Stock, Situation of Mine, Name of Secretary and Place of Business.
MARKET REVIEW.—Mining and Petroleum Stocks, Finances, Stocks, Metals, etc.
THE COAL TRADE.—Quotations, Shipments, Freights, Cargo Rates, Weekly Coal Trade Circular.
FOREIGN MARKET REVIEW—Metals, Oil, etc.
NEVADA STOCKS.—Latest advices by Telegraph.
NEW YORK METAL MARKET.

LET US LEARN FROM OUR NEIGHBORS.

It is but a short time since we drew attention to the remarkable difference between mining in this country and mining in Great Britain and its dependencies, inasmuch as our mining share list exhibits a percentage of loss instead of gain, whereas the 350 mines on the British list average dividends three times as large as those averaged by other thriving businesses, such as railways, gas companies, etc. Our attention is again directed to this point by the following paragraph, published in the London *Mining Journal*, under the head of "Mining in Australia":

THE BAND OF HOPE GOLD MINING COMPANY, one of the richest in the world, has been at work about two years, and has raised about 3½ tons of gold, realising £361,492 8s. 5d. The dividends for the last half year are about 50 per cent. on the nominal capital; about £65,000 has been divided, while the working expenses were about £40,000.

Now, although such immense profits as those of the Band of Hope are by no means common among the gold mining companies of Great Britain and its dependencies, yet they are still less so among those of this country. We might be able to mention many, very many instances of American gold mines paying prodigiously, but these were in the hands of *individuals*. We cannot now remember a single incorporated American gold mining company whose profits have at all approached those of the Band of Hope. We have been in the habit in this country, more or less, of pointing at English mining companies as exemplars of extravagance and cumbersome mismanagement; but it seems that they generally make money while our mining companies too often lose. Why is this? Are the British really better managers? Have they better judgment in such matters? Have they better gold mines? Certainly not. Why is it then? It is because we are *too mercurial* in our dispositions and habits. This failing—which may be, and perhaps is of value in some operations, but is the reverse in mining undertakings—is parent to a dozen others, whose names are: "Love of mere speculations," "Excitability," "Credulity," "Overhaste," Carelessness," "Recklessness," and "lack of thoroughness" in those entering into a mining venture; and too often "false coloring," "lying," "collusion," "stock-jobbing," and "swindling," in order to get out of it again with profit, or at any rate without loss. This mercurial disposition has to be sure its good side—as the rapid discovery and development of the mineral wealth of this country within the past fifteen years is mainly due to its influence—but while it helps the country to a certain extent, and benefits second comers greatly, it is incessant poverty to the really deserving but restless pioneer, ruin to most small investors, and a scandal to the nation. Let us then endeavor to govern if we cannot eradicate it and its festering brood. Let us endeavor to a proper extent to imitate the caution, thoroughness and tenacity exhibited by John Bull in the majority of his mining operations. He makes sure that the mine is worth working. Then, but not till then, the old fellow buys it; and when once bought, he sticks to it through thick and thin, until it has had a fair chance, holding everybody engaged in it to a strict accountability. He has lost money on mines—particularly in California many years ago—and some of the same mines have since paid well in other hands, but these are comparatively exceptional cases. As a rule he is very careful about going into such operations, and very successful when he gets into them. On the other hand, Jonathan as a rule, is neither. This is a fault of youth that will undoubtedly be corrected with increase of age. And, when it *is* corrected, we too shall be able to truthfully say that our share list of mining companies exhibits an infinitely higher average of profits than can be boasted by any other class of business.

OUR SCHOOL OF MINES.

Under the head of "Scientific Meetings" we give a condensed report of the proceedings inaugurating the lecture season of the third academic year of the School of Mines, Columbia College, New York City. It is gratifying to learn that the success of this school is so decided. Professor Egleston gave the pupils the highest possible praise for diligence and attainments, declaring that at their scholastic age he could not have passed so high a grade of examination—a statement that reflects unbounded credit upon the learned Faculty and their assistants. But the constant and rapid increase of scholars—there are 100 now—is perhaps the best commentary upon the deserved estimation in which our Mining School, after an existence of only two years, is held. These young men are evidently in earnest; their intelligent, animated, determined-looking faces told it plainly enough—and they need to be, for they have before them a grand work to accomplish; a field, as Professor Newberry observed, such as has been presented to no other adventurers, and a scientific training such as few of our present mining officials can boast. They have a noble opportunity, the material with which to turn it to the best account, and the requisite energy with which to push these advantages. We therefore look forward to their future with confidence that they will do their full share in the subjugation of the mineral world, and the advancement of mining and metallurgical science. We heartily wish them success.

This Picture, and That!

In our last issue we mentioned that the San Francisco *Mining Press* had taken us to task for stating that (at that time, nearly three months ago, and before the new Mariposa process had been tested), we knew of no companies in the United States that were making money out of hard auriferous quartz that holds less than $6 or $8 to the ton; and in doing so, our contemporary declared that "there are scores of mills in this State (California) crushing hard ores at a running expense of less than $1.50 per ton." Since then, we have seen a statement going the rounds of the California papers—as an instance of good management and economical working—that "a thirty stamp mill on the Ophir mine at Grass Valley (Nevada county, Cal.) is run at a cost of $110 per day." A thirty stamp mill crushes about thirty tons of hard quartz per diem. The running expenses of this economical mill while crushing hard ores then are about $3.67 per ton, instead of "less than $1.50 per ton." All we have to say on this subject at present is: *If* there are "scores of mills" that crush at the latter figure, why on earth do the Californian papers vaunt the economical working of a mill that crushes at the former?

A British Query Answered.

The *Pall Mall Gazette* asks: Why should British miners emigrate to America? We will endeavor briefly to answer our contemporary. Because here there are larger and richer mining fields, whose treasures are inexhaustible, and not one quarter developed, where skilled labor is better appreciated (being more needed) and better compensated than in their native land, and because British miners have at last ascertained that here there is larger political and social liberty, a better opportunity to educate and bring up their children, a better chance for them to rise from the degradation and ignorance with which centuries of *caste* have burthened them, and to take their proper position in the noble order of manhood. This land is the Paradise of workmen—the goal which the eyes of laboring Europe longingly contemplate, and hope and struggle to reach. What wonder, then, that British miners come hither by thousands? They wish to come we want, them here, they *do* come, and what is more, they will *keep on coming* until those left behind receive higher wages and other advantages equal to those that we can offer. Why indeed should British miners *not* emigrate to America?

Pacific Railroad Progress.

The Union Pacific Railroad is now running with passengers and freight 200 miles west of the Missouri river to Fort Kearney on the Platte river, and the company promise to have it completed to the Forks of the Platte (100 miles further) by New Year's day. The fact is, the prairie is so dead-level, that the track can be laid as fast as the material is furnished. It is believed that by the end of next year the city of Denver, Colorado, will be in full railroad communication with New York city. On the other side of the continent the Pacific Railroad is also being built very rapidly considering the

great engineering difficulties that have to be subdued in crossing the Sierra Nevada, and we should not be surprised if Virginia City, Nevada, were connected with Sacramento City by rail within another year. Speed the good work on both sides, say we!

Statesmen among the Iron-workers.

In accordance with an invitation from the American Iron and Steel Association, Secretary McCullock, Commissioner Wells, Senator Fessenden, and several other prominent men from Washington, have been spending the week in visiting the leading iron regions of Pennsylvania. Great hopes are entertained that this visit will conduce to wise Congressional Legislation in behalf of the iron interests of the country. We know of no branch of mining more worthy of being promoted than that of iron.

Scientific Meetings.

SCHOOL OF MINES, COLUMBIA COLLEGE.

INAUGURATION OF THE THIRD ANNUAL LECTURE SEASON—PRESIDENT BARNARD ON OUR COUNTRY'S MINERAL WEALTH—PROF. NEWBERRY ON THE ADVANTAGES OF SKILLED MINING LABOR—PROF. EGLESTON ON THE PROGRESS OF THE PUPILS—THE LABORATORIES, MUSEUM, ETC.

The inauguration of the Third Annual Lecture Season of the School of Mines, Columbia College, took place last Wednesday afternoon before a select audience.

President Barnard opened the proceedings by saying: A sharp line of distinction must be drawn between individual and national wealth. Wealth, in a few hands, may not be a source of national strength, but when diffused throughout the nation produces comfort and develops science and art; and certainly among nations the longest purse is the best security of stability. As schools of mines directly conduce to this material wealth, they are usually under the direct patronage and material support of the State, and are, in many cases, already venerable institutions; for instance, the celebrated school of Freiberg celebrates this year its centennial anniversary. In our own country where government happily provides for primary education, why should it not also give material support to industrial schools which, in a still nearer manner, influence the wealth of the nation? Professor Whitney, twelve years ago, published a statistical statement of the mineral wealth of various countries; of these (excluding coal), England stood first, and even then, notwithstanding the blind methods which were used in extracting metals, the United States stood second. In 1854, the United States stood second in regard to the value of iron extracted, in copper fourth, in lead third, in zinc third, in mercury second, in silver third, in gold first. Such being the position of our country when the exploration of its mineral wealth was in its infancy, how important it is that skilled labor should be brought to bear upon it. For although an experienced worker in metals may stumble upon the best methods of working, and, keeping them in mind, may produce a good result without knowing the causes of his success, yet a little change in the nature of the ore or of the fuel will change the bases of his operations, and the result will then be that he is set adrift without compass. The Columbia College School of Mines was instituted in order to supply this want of science. That there was a want to be supplied is proved by the success of our school. The first year we provided for 12 students—and 40 or 50 came, and the second year more. We were, of course, obliged to enlarge our accommodations; and we built for *use*, not for show; for we believe that it will be necessary to greatly enlarge the school and, probably, remove to another location. But what we have done is *well* done, that is to say, the facilities for instruction are equal to those available in any school of mines. When I state that the want of a mining school was felt, I do not say that no instruction on mining and engineering could be obtained in the public institutions of this country, but that no institution regarded the study of mining as their chief aim as we do here; and, although we do not exclude, we do not allow any other studies to interfere with the proper cultivation of this our chief study. I will now call upon the newest member of our faculty to address you, a man whose fame for thoroughness of knowledge in his department is spread throughout our country: Prof. Newberry. [Applause.]

Prof. N. said: When we regard the natural advantages of the United States and with them the liberal institutions of the country, we think that there is a greatness before it such as no other country had yet attained, or is ever destined after us to attain. Our blessings are so common that they are undervalued. Compare them with those of other nations, and in places of numerous barren tracts, interspersed with fertile soil, we find in the valley of the Mississippi a plain of the most fruitful character, which might be tracked by the plough for a thousand miles in any direction; and although by our wasteful system of agriculture this rich tract may be impoverished in a hundred years, we have in our mineral resources a source of wealth which ages will not exhaust. But for this work we want skilled labor. The time has well nigh passed when we could gather from our *placere* diggings, gold which nature had already disintegrated. We no longer are to rely on human bone and muscle, but to use these in combination with steam and mechanical powers. It has been well said that the Chinese are now where we were when steam was discovered; but how vastly this latter power has multiplied animal power! Britain, it is said, contains 8,000,000 available workers, but the steam power they command increases the force to 57,000,000 workers. What then must be our working power when developed, considering that our store of coal exceeds that of Great Britain in the proportion of 42 to 1. Our coal, too, from the nature of the country, is far more accessible and more cheaply drained, and our supply of iron not only includes that of the coal measures whence England derives her store, but that from other sources. Then when we turn to our wealth in gold, we have already with, so to speak, unskilled labor, drawn $1,000,000,000, in value, from California. We have now added to our known resources in that metal the stores laid up in the Rocky Mountains, and that on the eastern slopes. In silver, as if our present enormous possessions were not enough, we shall, undoubtedly, soon add to them the silver producing territory of the north of Mexico, and with such a scope for skilled labor in coal, iron, lead, copper, silver and gold do we not do well to train skilled workers in our Columbia College Mining School.

The President next called upon Prof. Egleston to speak of the progress of the pupils. This gentleman said that he could do so with the greatest satisfaction. A year ago we looked at the papers of our prize students, and considered that there was good reason to be proud of them. This year the standard of the examination had been considerably raised, and the papers of the students who had obtained prizes were most excellent, and those who had not obtained prizes were exceedingly good; he had worked alongside of Spaniards, Frenchmen, Englishmen, and men of Mexico and Chili, but had never seen a zeal equal to that displayed by the students of Columbia College. At present the Faculty had difficulty in supplying their ardor for instruction, and he doubted whether in his first year he could have ever passed the examination to which these first year's students had been subjected.

The President then read out the names of the successful competitors for prizes, amid the congratulations of their fellow-students.

The names of the scholars who most distinguished themselves are as follows: George B. Hanna, A. B., East Randolph, Mass., passed the best examination on all the studies of the first year. Honorably mentioned as next in standing, are Moses D. Wheeler, Zanesville, Ohio; W. H. J. Sieberg, A. B., W. A. Smith and G. W. Crauch, of New York; E. S. Moffat, of Princeton, N. J.; F. A. Schermerhorn and W. H. Van Arsdale, A. B., of New York. The Torrey prize for passing the best written and experimental examination in Qualitative Analysis, was gained by George S. Baxter, A. B., New York. Honorably mentioned as next in standing, were Moses D. Wheeler, Zanesville, Ohio; George B. Hanna, A. B., East Randolph, Mass.; Archibald McMartin, A. B., New York; E. S. Moffat, Princeton, N. J.; W. H. Van Arsdale, A. B., and W. A. Smith, New York. The Torrey prize in Quantitative Analysis, was gained by John Magnus Adams, A. B., of New York. Honorably mentioned were Henry B. Cornwall, A. B., and David Van Sennep, New York; Francis Gordon Brown, of Tarrytown, N. Y., and Charles King Gracie, A. B., of Elizabeth, N. J. Prize Assistants in Crystallography, George B. Hanna, A. B., East Randolph, Mass.; George S. Baxter, A. B., New York; W. H. Van Arsdale, A. B., New York; Moses D. Wheeler, Zanesville, Ohio.

Many of the visitors afterwards walked through the laboratories, drawing-room, museum, &c., which, though most unpretentious and void of ornament, appeared to be very well adapted to their respective uses. New York has reason to be proud of her School of Mines, and of the gentlemen who have labored, and are still laboring so unremittingly to place it in the front rank of the best Mining schools of the world.

AMERICAN INSTITUTE—POLYTECHNIC BRANCH.

STEAM PRESSURE—PEAT IN BROOKLYN—PETROLEUM V. SPERM OIL AS A LUBRICATOR—FIRE AND CARBOLIC ACID AS DISINFECTANTS.

At the meeting of the Polytechnic branch of the American Institute, on Thursday evening, Dr. Warren Rowell made statements respecting the work performed by different-sized cylinders under similar pressure of steam.

Dr. Tillman exhibited specimens of peat found in excavating in the proposed park at Brooklyn; it is fifteen feet in thickness, and supposed to extend over an area of 500 acres.

A specimen of lubricating oil was exhibited, being crude petroleum, which had been passed through bone ash. It was almost colorless, and free from unpleasant odor. There are two qualities of oil run through bone ash, the produce of the same petroleum. The first run is white, the succeeding yellow, the loss is about 20 per cent. on the crude oil. It was stated that, taking petroleum and sperm oil in equal quantities, it would be found that the petroleum was 50 per cent. more serviceable than sperm oil.

"Disinfectants" was then taken up by Mr. Feuchtwanger, who read a paper on the subject. A discussion ensued. Dr. Bradley stated that he had lived a considerable time in districts subject to miasma. He considered that the poison was not in the atmosphere, or rather that it was what might be called a negative poison. That when there was a reaction between the perspiration of the body and the outer atmosphere, so that the former can be carried off, the effects of the miasmatic atmosphere do not appear. Fire alters the character of this atmosphere; hence females whose employment necessitates their being about the kitchen fire, are much less subject to malaria than males. Professor Joy reviewed the statements of the preceding speakers. He said that carbolic acid, which went by many other aliases, was discovered in 1854. It is found to be the most efficient agent in destroying animalculæ. All insects appeared to have the greatest dread of it, and would flee on its approach. Fire had always been considered one of the best disinfectants. It had been used in the most ancient times; and even before fire is sunshine. It had been noticed that the north side of a street is more healthy than the south, and he was very glad to hear the report that Mr. Stewart is about to lay out a million of dollars in building improved dwellings for the poor, and allowing the sunshine to reach them.

MINING COMPANY STATEMENTS.

OHIO AND COLORADO G. & S. MINING CO.—(UNASSESSABLE.)—CAPITAL STOCK, $2,000,000; SHARES, PAR VALUE, $5 EACH; $500,000 IN STOCK WORKING CAPITAL. Office, 155 and 157 Broadway.

This company own over eleven thousand feet on lodes in Banner and adjoining districts, Clear Creek county, Colorado. The prospectus gives extracts from reports made by General Fitz John Porter and Professor Kent, which speak highly of the lodes of this county, but we see nothing in the prospectus relative to the value of the company's property, except that "it has been selected with great care by men of large practical experience in mining

matters, and is known to be abundantly rich in gold and silver." The company state that they intend to commence work immediately, and erect suitable machinery soon as possible for the reduction of the ores, but we would advise them, by all means, not to build a mill until they prove their mines—which they do not appear to have done.

CRESCENT SILVER MINING CO.—CAPITAL STOCK, $1,000,000; SHARES, PAR VALUE, $100 EACH. Office, 17 Nassau street, N. Y.

From the prospectus of this company it appears that they own some two thousand four hundred feet of the List, Boston, General Wadsworth, El Paso and Stanton silver lodes, in the district of Pahranagat, Nevada. From these lodes assays have been made from $100 up to $7,000 per ton, the richest ore coming from the List lode, which they say is the richest in the district. Coal and water abound. The Superintendent leaves New York for the mines in November. He owns one-tenth of the stock, and appears to be a very nice gentleman, but when he called upon us last week, and we asked him: "What mine have *you* ever worked in or superintended?" he answered: "*None—I'm quite new in the business.*" That he will do his best is very likely, but we do not believe in setting men to do work concerning which they absolutely know nothing, and therefore advise the gentleman, for the sake of his one-tenth interest, not to go.

HIAWATHA G. & S. MINING CO.—CAPITAL STOCK, $500,000; SHARES, (UNASSESSABLE,) PAR VALUE, $2 EACH; $200,000 OF STOCK RESERVED AS WORKING CAPITAL. Office, 152 Broadway, N. Y.

The property of this company, as we learn from its prospectus, is situated in Clear Creek county, Colorado, and consists of an aggregate of two thousand two hundred and fifty feet upon the Hiawatha, Virden, Hanover, Saginaw, Atlanta, Lincoln, Hamlin, Clear Creek, Geneva, Christiana, Bascom, Augusta and Albro lodes. "Two shafts," (forty and sixty feet,) says our authority, "have been sunk on the Hiawatha, showing a well defined crevice of four feet. The ore yielded, by the old process, sixty dollars per ton in gold. Thousands of dollars have been taken from the lode, and it proves wider and richer the deeper it is worked." By the new processes much better results are anticipated. On the Virden lode shafts have been put down on the claims about twenty-five feet, which yielded ore that averaged $55 per ton in gold by the old process. The crevice on this lode is about three feet, but it increases in width as it goes down. The Hiawatha and Virden, it is stated, have paid from the start.

DIVIDENDS.

The Honey Brook Coal Co. have declared a dividend of 3 per cent., payable 23d of October; Manhattan Petroleum Co., of 2 per cent., payable Oct. 25th, at 71 Broadway; Philadelphia and Boston Petroleum Co. and Pit Hole Co., each of one per cent., payable at Philadelphia; Mountain Oil Co. of 2 per cent., payable at 192 Broadway, on 25th October; Columbia Oil Co. of 4 per cent., at Pittsburg.

MEETINGS.

Ascot Gold Mining Co., annual, at 42 Broadway, on 22d of October; Watson Petroleum Co., election of trustees at 74 Broadway, on 23d of October; Northern Light Oil Co., annual, at 57 Broadway, on 24th of October.

NEW PUBLICATIONS.

GEOLOGICAL SURVEYS. By J. VANCLEVE PHILLIPS, M. E.—We find a pamphlet thus entitled lying upon our desk. It contains a catalogue of the numerous sketches, papers, reports, etc., that have appeared in print from the prolific pen of Mr. Phillips. His mineralogical labors in the mining fields of Missouri, Wisconsin and Illinois, his zeal and industry, and clearness in propagating the results, can scarcely be sufficiently estimated. He is one of the hardest working, most thorough and practical men of the day, and we take this opportunity of thanking him for valuable contributions to the columns of the AMERICAN JOURNAL OF MINING.

MAP OF COLLIERIES.—We have received an excellent map of the Anthracite Collieries of Pennsylvania, published by P. W. Sheafer, M. E., of Pottsville.

Original Papers.

[WRITTEN FOR THE JOURNAL OF MINING.]

LEAD FIELDS OF THE UPPER MISSISSIPPI.

By J. VAN CLEVE PHILLIPS, M. E., No. 13.

SHULLSBURGH, WISCONSIN.

This is one of the principal mining towns in the lead field, is eight miles from the Illinois Central Railroad, and in the eastern part of the field. The district is prairie, with occasional belts, and spots of timber. Imagine a wide rolling prairie, the Platte mounds to the north west twenty miles, to the south an oblong mound or ridge, known as Gratiot's grove; to the east an open sea of prairie; to the west, twenty miles, the Sinsinawa mound raising its conic form three hundred feet above the prairie. This view is presented, when riding in the stage from Scales-mound station, and crossing the ridge near town. We have passed through a rich farming country. Stone fences, built of the lead measures, are seen; the old dilapidated towns of Blackleg, and White Oak springs, were passed, the former once the scene of active mining operations. The great north and south vein, known as the "Blackleg," yielded 20,000,000 pounds of ore, equal to 16,000,000 pounds of lead. It was owned and worked by gamblers. The ore lay in three sheets, standing vertically, in a crevice filled with clay; these were from six to eight inches thick, solid ore, and worked from the grass roots to a depth of one hundred and twenty feet, and one thousand feet long. The ore was taken out and piled in cords, alongside of the veins. The discovery was made about 1830, and the principal ore mined the following five years. The proceeds of the mine were used as capital for faro banks. The town of Blackleg now consists of some five or six small frame buildings, with dilapidated fences around them. The mine shows a derick and horse power pump, and some five or six miners working in the old diggings. A party in the stage hunting lead properties, very eagerly asked, "Is there no more veins of this kind here?" We answered that but little prospecting had been done; other parallel veins might be found, possibly capped over with rock in the adjacent grounds. Nature has filled the lead veins in their rocky matrix for the use of man, and has thrown up to the surface parts of her great network system of metallic veins; so that the explorer, as he crosses the country, can read by the linear vegetation growing through valley and over ridge, that something would be found below. By this sign was the discovery of this "Blackleg" vein made. Again, the farmer in his field will plow up ore, and open mines; the clay being gullied out by rains, exposes a part of this system; also the grading of roads, sinking of wells, clearing out springs, digging post holes. In these various ways a part of this great network system of veins in the lead field has been laid bare; yet the economic laws have evidently anticipated the constitution of the human mind, and have piled away in rocky vaults the contiguous parts of this system, that all the speculative, engineering, and mechanical skill of that mind might be brought into activity; and we must suppose that this Blackleg vein is the coming to-day of a part of that great subterranean system of veins which reaches away for miles and miles, probably again exposed at Shullsburgh, New Diggings, or Apple river mines, which are from five to ten miles distant. Shullsburgh has about 1,500 population, and shows some handsome private residences, and well-improved grounds. The town is built at the upper end of a ravine or flat valley in the prairie; ridges rise north and south, with a very gentle ascent, to a height of about one hundred feet above the small creek which passes through the town; five hundred acres, south of the town, are covered with shafts, showing piles of a grayish limestone, that have been taken out in mining the ore. These piles in places are in lines east and west; again, north and south. In places open cuts are seen in the clay; also several old pumps worked by horse-power. The discovery of ore was in the bed of the creek below town. This floating ore was first worked in the clay; coming up the creek, the ore was gradually found to work under a cap rock, a shelving limestone. Shafts were sunk ahead through this cap, ten and twenty feet; the ore was found to work in a system of north and south and east and west pipe veins. This system once being traced under this "hanging wall," was followed. The ore might run east and west until a north and south crossing would carry all the ore in its course, and the east and west be abandoned, and the other followed. Imagine a system of veins of this kind having cropped out and thrown out large quantities of ore in the clay; then working under a hanging wall of a gray limestone interlaid with chert, as the ground rises forming the ridge, the strata having a slight dip towards the centre of the ridge, the veins working in a kind of mammoth "stock worke," all being confined to this same plane in the strata, and worked for half a mile up the creek, and three quarters of a mile south to the mines working at present—and some idea may be had of the noted Shullsburgh lead mines. This ore makes, in what is called by the lead miners, the "green bed opening." The name comes from a thin sheet, say a quarter of an inch thick, formed of a greenish pipe clay, and found from one to five feet above the ore. This opening near the creek was drained, first by horse pumps, and then for a number of years by what was known as the "bull pump," an inclined wheel worked by oxen. As the work progressed further under the ridge, horse-power pumps were used, these being worked as long as ore was found near them, and then moved ahead. The ore has been worked from the bed of the creek named, for nearly one mile in a south east course, the green bed now being one hundred and ten feet from the surface and veins better defined, and of a much larger character, under this heavy cap rock—this ore in places raised in chimneys from the green bed to the grass roots, forming a kind of vertical pipe vein. As a general rule, where the ore has raised in this way, the veins in the opening were weakened; where the veins were richest under the green bed, the crevices above carried only small vertical strings of sheet ore. As this work has progressed, the drifts have been opened to form an adit, and the drainage at present is by three two-horse power pumps, which pump the water from the opening below the green bed into a drift adit that leads out to the surface. There are a number of mines working along the south edge of this floor, the largest of which is that of Davenport & Co., from which 1,000,000 pounds of ore has been raised the last twelve months. We will look at this mine. The shaft is on the summit of a ridge, and about eighty feet altitude above the creek, running through the town. The hoisting is done by a "whipsey," (a rope passing over a pulley and down the shaft, and horse walking in a straight line from shaft;) a common lifting pump is worked by two horses. There is a large pile of gray limestone interlaid with chert, some ochre, and specks of ore seen attached to the rock. We go down by ladders. Landing on the platform, each ten feet, the shaft is one hundred and ten feet deep; the clay over the rock is about eight feet deep. At the bottom a chamber or drift opens east and west; this is six feet high, and from six to ten feet wide. There is a close east and west seam or crevice cutting through the cap. About one thousand pounds of sheet ore were found in sinking above the green bed, this crevice decided the course of the vein. Where this winds, or forks, or is crossed at right angles, the vein has always been more or less changed in its character. We pass west some three hundred feet, the chamber in places being ten feet wide, and forking veins having been followed out twenty or fifty feet. In the west end, the vein is exposed; the bottom of the ore appears to terminate in a narrow seam in the crevice in the footwall of the opening, and to branch like the letter V against the hanging walk or cap-rock. The space between the forks of the veins is filled with angular-jointed masses of limestone, a kind of breccia, with ochre, and small occasional strings of ore. The vein is largest when these branches meet, a point about four feet below the cap rock. The ore in these forks is from six to ten inches thick, cubic formed, and mined without much blasting. This is a true east and west pipe lead vein. Since the examination was made, this company have cut south some sixty feet, and discovered another parallel vein of similar character. South from this point for miles no mining has been done. East, several north and south vertical gash veins have been worked, no shaft having been sunk to the level of this green bed opening. This land is owned by different parties, who have drawn one-sixth rent ore, or royalty. The mining has been done by two, four, and six men working in company. The ores were discovered here about thirty years ago, and have been mined more or less ever since. The amount of ore raised from this district and green bed opening here described, may be set down in round numbers at three hundred millions of pounds of 70 per cent. ore; present value would be two million, one hundred thousand dollars.

MARKET REVIEW.

FRIDAY EVENING.

Mining Stocks have experienced, on the whole, a steady advance. There has been considerable animation in American Flag, which has risen during the week from $4 15 to $4 40. Burroughs Gold has risen from 75c. to 85c. Benton Gold has risen 10c. Boscobel Silver, after reaching $1 50, fell to $1 05, the present price. Bullion Consolidated has steadily risen to $5 50; Church Union, to $2 75; Consolidated Colorado, to 38c.. Corydon has been very

active, and advanced from $6 15 to $7 50. Consolidated Gregory had advanced last Saturday from $16 25 to $17, but has since fallen gradually to $14. Downieville Gold has risen from $2 10 to $2 37. Gunnell Gold has fallen to $1 21; Keystone Silver, 15c.; Kipp & Buell has fallen from $2 27 to $2 15; La Crosso Gold has risen from $3 25 on Saturday to $4 95 on Wednesday, and closes at $6 to-day, New York Gold stationary at $2 50 to $2 75. Quartz Hill is still tending downward, closing at $2 60. Rocky Mountain Gold from $6 05 to $5. Wallkill Lead has risen to $2 60.

Government Stocks are firm, at about last week's quotations.

	Off'd.	Ask'd.
6 per cent. 1867	138	141
6 per cent. reg'd 1881	113	113
5-20 reg'd 1862	106	106⅛
5-20 500 and 1,000	115⅛	115¼
5-20 reg'd 1864	105⅛	..
5-20 500 and 1,000	110⅛	110⅜
10-40 reg'd	99⅞	100
7-30 1st series	106⅞	107

Foreign Exchange is firm; on London, at 60 days, 107@107¾; for commercial, 108@108¾; for bankers' at short sight, 109⅛@109⅝; on Paris at 60 days, 5.23¾@5.20; Hamburg, 35⅞@36¼.

Gold.—The market to-day opened at 149, and dropped gradually, closing at 147⅛ at 4 o'clock.

Petroleum Stocks have been neglected, Brooklyn has risen from 60 to 70c; Beuchoff Run stationary at $7 10; Bemis Heights, $3 25.

Coal Stocks are not much changed.

	Offered.	Asked.
Pennsylvania Coal	157½	160
Central Coal	55	56
Cumberland Coal, preferred	58⅜	58½
American Coal	68	69
Wilkesbarre Coal and Mining	62	63
Spring Mountain Coal	76	78

Copper.—The sales for future delivery have been large, with an upward tendency. We note sales of 200,000 lbs. Detroit at 31c for present delivery, and 31½c. at the end of the month; 100,000 Balt., 21c. (the price for future delivery asked by the campany is 32½c.); 100,000 lbs. Lake, 31c.; 80,000 lbs. Tennessee, 30½@31c.

Iron.—The demand is active, and stock still small. American No. 1 is quoted at $50@51, but scarce and no sales to report; No. 2, extra, $46@47; No. 2, $43@44. In Scotch we note sales of 400 to 500 tons Glengarnock, in lots, at $51 to $52, ex. ship; $52@$53, ex. yard; 700 to 800 tons of English Rails at $54½ to 55c., gold; 200 tons old and bent, $50, currency. Bar quiet and steady. Steel unchanged.

Tin.—Pig is quiet. Sales of 75 pigs Straits at 11¾, gold. Banca is nominally 21¾. No English in stock. In Tin Plates 1 C Coke is scarce; Charcoal terne quiet at $10 25, gold.

Lead.—Pig is in rather small demand. Sales of 200 tons Spanish at 6¾, gold; 100 tons English, to arrive, at $6 81, gold; Bar, 11c.; Sheet, 11½c.

Spelter dull. Sales of 65 tons at $6 40 to $6 45, gold. Lehigh in good request at 11½c., currency.

Zinc.—Sheet firm, at 13½c. currency, for Lehigh; 9½c. gold, with 4 per cent. off for Mosselman in Agent's hands.

Petroleum.—More active, at lower prices; sales are noted to-day of 13,000 bbls., mostly refined in bond. We quote: Crude, 40@47 grains, in bulk, at 16@16½c; do. in barrels, 23@23½c.; refined, 110 degrees test, light strw, 36½c.@37c.; do., light straw to white, 37½@38c.; do., prime light straw to white, 38½@39c.; do., standard white, 40¼@41c.; do., prime white 41½@42c.; free oil, 55@57c.

THE COAL TRADE.

FRIDAY EVENING, Oct. 19, 1866.

Wholesale.—Trade is becoming more settled, and there is greater inquiry for good qualities of Coal at fair prices. Dealers are becoming satisfied that there can be no further reduction. Indeed there is some likelihood of an advance, and those having large stocks on hand are looking around the market for a supply before another cold snap sets in, which will herald the close of navigation. Several cargoes have changed hands during the past few days, at our quotations. The regular monthly sale of Scranton Coal has not been announced, and will probably be postponed.

Retail.—Dealers are having more demand, consumers feeling satisfied that prices have touched bottom. Coal is now being retailed below summer prices, and many are selling at a loss. Hopes are entertained that matters will work more favorably in a few weeks. Prices range from $7 50 to $8 50 for the different qualities.

The returns of the coal traffic for the last week, as compared with those of the corresponding week last year, are as follows:

	1865.		1866.		
	WEEK.	TOTAL.	WEEK.	TOTAL.	INC. & DEC
Phil. & Reading R. R.	77,484	2,380,823	58,897	3,028,432	I 647,609
Lehigh Val. R. R.	40,581	1,168,941	26,320	1,495,743	I 326,801
Lehigh Canal	31,377	667,140	29,719	835,685	I 168,545
Del & Hudson	29,394	549,998	30,335	1,091,457	I 541,459
Pennsylvania Coal Co.	.....	408,258	18,882	356,962	D 51,295
Scranton North	11,136	157,787	8,557	334,719	I 506,011
Scranton South	20,017	510,629	21,619	839,708	
Wyoming South	.....	191,683	11,023	383,138	I 191,455
Huntington & Bd. Top	.....	244,853	3,922	215,241	D 29,612
Treverton	.....	.....	.9409	44,3731	.....

SCHUYLKILL COAL TRADE BY RAILROAD AND CANAL for the week ending Thursday, October 18th:

	RAILROAD.	CANAL.
From St. Clair	20,961	.....
Port Carbon	9,305	.....
Pottsville	125	.....
Schuylkill Haven	17,080	.....
Auburn	3,772	.....
Port Clinton	7,054	.....
Total for week	58,897	.....
Previously this year	2,969,535	.....
Total this year	3,028,432	.....
To same time last year	2,380,823	.....
Increase	647,609	.....

Lehigh Coal Trade, for Week Ending Saturday, October 13.

OPERATORS.	RAILROADS. Week.	RAILROADS. Total.	CANAL. Week.	CANAL. Total.
Ashburton Coal Company	....	757	....	163
Andenreid	176	14,084	460	10,301
Baltimore Coal Company	960	28,626	313	9,924
Buck Mountain	1,291	47,669	539	18,358
Carter & Co., W. T.	....	....	737	18,799
Central Coal Company	....	....	....	....
Coleraine	1,667	27,521	....	....
Council Ridge	2,129	78,556	....	....
Coxe Bro. & Co	414	14,415	453	3,328
Connery, John	15	3,251	....	....
Coal Run Coal Company	....	155	....	....
Delano	....	24,929	....	5,595
East Sugar Loaf	3,396	157,135	....	....
Ebervale Coal Company	982	47,036	865	18,194
Franklin Coal Company	153	16,668	381	9,318
Ger Pa Coal Company	275	42,387	....	23,506
Glendon Coal Company	295	22,641	193	1,149
Germania Company	131	8,452	221	8,537
Hazleton	3,067	172,207	....	....
Harleigh	455	42,589	445	12,014
Highland Coal Company	....	....	....	....
Honey Brook Coal Company	436	106,818	90	22,458
Hall & Co., Thomas	....	....	196	9,607
Halsey & Co., W. S.	....	....	93	5,270
Jeddo (G. B. M. & Co.)	2,030	119,886	....	....
Knickerbocker	....	22,421	....	9,281
Lehigh Zinc Company	....	7,404	....	....
Lehigh & Susquehannah	38	16,031	679	10,923
Lehigh Coal & Navigation Company	....	....	12,564	319,764
Mahanoy	....	10,935	....	....
Mount Peasant	136	19,202	....	....
Meadow, B. (D. W.)	46	1,812	....	....
McNeal Company	521	50,235	159	18,741
Meyers, H.	....	8,582	....	....
Mount Etna Coal Company	....	....	....	4,327
Markle & Co., G. B.	....	....	1,782	43,818
New York & Lehigh	1,395	55,183	....	....
New Jersey	490	3,052	253	4,794
North Mahanoy	....	....	....	7,801
Packer, Skeer & Co.	....	....	2,344	70,679
Pardee, A. & Co	....	....	2,583	61,462
Patterson, W. T.	....	220	....	....
Parrish & Thomas	106	17,826	63	275
Primrose Coal	....	....	....	196
Rathburn, Stearns & Co.	419	32,687	....	....
Reber, J. B. & Co.	....	6,542	....	....
Sharpe, Weiss & Co.	....	....	602	24,434
Stout Coal Company	975	39,042	780	12,705
Spring Mountain	1,977	116,426	193	5,558
Silliman	353	38,669	....	....
Shamokin Coal Company	164	2,202	....	....
Trenton Coal Company	51	237	....	379
Union	15	718	470	1,749
Wilkesbarre	916	51,213	1,152	33,669
Woodside Company	....	....	....	....
Warrior Run	137	6,128	396	5,153
Wyoming	78	2,286	....	1,257
Walter Bro. & Co.	....	....	98	12,593
Other supplies	4	10,358	613	9,085
	26,320		29,719	835,685
Last year	40,581		31,377	667,140
Decrease	14,261			
Increase				168,545

Little Schuylkill Coal Trade to Saturday, Oct. 13th.

	Co.'s Mines. Tons.	Railroad. Tons.
From December 1st, 1865	109,762	216,987
same time last year	77,138	176,927
Increase	32,623	40,060
East Mahanoy R. R.		321,477
Last year		320,814
Increase		662
Increase on Railroads		40,723

Prices of Coal by the Cargo.

At New York, Oct. 19, 1866.

Schuylkill Red Ash by Boat Load	$7 00@	$7 50
" Chestnut, " "	4 50	5 00
" White Ash Lump	6 25	6 75
" Steamboat	6 25	6 75
" Broken	6 25	7 00
" Egg	6 50	7 00
" Stove	6 50	7 00
" Chestnut	4 75	5 25
Lehigh White Ash Lump	6 50	7 00
" Steamboat	6 50	....
" Broken	6 50	....
" Egg	6 50	....
" Stove	7 00	....
" Chestnut	5 50	....
Western Virginia Gas Coal	10 00	....
Westmoreland Gas Coal	10 00	....
Blossburg & Ball Creek	7 25	7 40

At Philadelphia, Oct. 19, 1866.

Schuylkill Red Ash Prepared	$5 50@	$5 75
" Chestnut	4 00	.. ..
" White Ash Lump and Steamboat	5 00	.. ..
" Broken	5 00	.. ..
" Egg and Stove	5 25	.. ..
" Chestnut	4 00	.. ..
Locust Mt. Lump, and Steamboat	5 25	.. ..
" Broken	5 25	.. ..
" Prepared	5 50	.. ..
" Chestnut	4 25	.. ..
Lorberry Coal	5 75	.. ..
Shamokin	5 75	.. ..
Franklin, (Lykens Valley)	6 25	.. ..
Broad Top	5 50	.. ..

Scranton Coal at Elizabethport.

Lump	$5 25@	— —
Steamer	5 50	— —
Grate	5 69	— —
Egg	5 75	— —
Stove	6 50	— —
Chestnut	4 75	— —

Prices for Pittston Coal at Newburgh.

Lump, per ton of 2240 lbs	$6 25	.. ..
Steamer, " " "	6 35	.. ..
Grate " " "	6 40	.. ..
Egg " " "	6 50	.. ..
Stove " " "	6 75	.. ..
Chesnut " " "	5 00	.. ..

70 cents per ton additional for delivery at N. York

Lehigh Coal at Elizabethport.

Lump	@$7 00	
Steamboat and Broken	6 50	— —
Egg	6 50	7 00
Chestnut	5 50	6 00
Stove	6 50	7 00

George's Creek and Cumberland Coal.

Run of mine, f. o. b. at Locust Point	$5 75@	.. ..
At Georgetown	5 50	.. ..

At Baltimore, Oct. 19, 1866.

Wilkesbarre & Pittston W. A., wholesale	$7 50@	$7 75
" " " retail	8 50	8 75
Lykens Valley & Sunbury R. A., wholesale	7 50	7 75
" " " retail	8 50	8 75

Prices of Foreign Coals.

[REPORTED FOR THE JOURNAL OF MINING.]

BY H. L. PARMELE & BRO.,

32 Pine street, N. Y.

Friday Evening, Oct. 19.

Liverpool Gas Caking	$10 75
" " Cannel	14 50
" House "	19 00
" " Orrel	18 00

Per ton 2240 lbs.

PRICES FROM YARD:

Liverpool Orrell, screened	20 00
" Cannel, "	22 00

per ton 2000 lbs. delivered.

Prices of Provincial Coals.

[REPORTED FOR THE JOURNAL OF MINING.]

BY LOUIS J. BELLONI, JR.,

43 Pine street, N. Y.

Block House (on board)	$2 00 gold.
Gownie	2 00 "
Lingan	1 75 "
Sidney and Picton	2 50 "
Glace Bay	2 00 "
International Co.'s	1 74 "
Slack Coal	75 "

Foreign Freights.

Sydney to N. Y.	$4 50
Lingan	5 00
Cow Bay	5 00
Glace Bay	5 00

Coal Freights.

From Newburgh.

Stamford	$1 35@	..	Greenbush	$ 55@	..
Norwalk	1 35	..	Coeymans	50	..
Bridgeport	1 35	..	Coxsackie	45	..
New Haven	1 35	..	Stuyvesant	45	..
New London	1 50	..	Hudson	40	..
Norwich	1 65	..	Catskill	40	..
Mystic	1 50	..	Saugerties	40	..
Stonington	1 50	..	Barrytown	40	..
Bristol	1 70	..	Rhinebeck	30	..
Newport	1 70	..	Poughkeepsie	25	..
Fall River	1 70	..	Fishkill Landing	20	..
Providence	1 75	..	Cold Spring	30	..
Dighton	1 75	..	West Point	30	..
Warren	1 75	..	Peekskill	40	..
Pawtucket	1 90	..	Haverstraw	45	..
Boston	2 00	..	Sing Sing	50	..
Troy	60	..	Nyack	50	..
West Troy	60	..	Tarrytown	50	..
Albany	55	..	Yonkers	55	..
New York	70	..			

From Elizabethport.

New York	$ 70@	— —	Portland	1 40@	— —
Fall River	1 40	— —	Newburyport	2 10	— —
Newport	1 30	— —	New London	1 40	— —
Boston	1 40	— —	Pawtucket	1 60	— —
Norwich	1 40	— —	Taunton	1 20	— —
Providence	1 40	— —	New Haven	1 20	— —
Norwalk	1 15	— —	Portsmouth	1 90	— —
Middletown	1 30	— —	New Bedford	1 40	— —
Hudson	1 00	— —	Bridgeport	1 20	— —
Lynn	—	— —	Hartford	1 55	— —
Salem	1 40	2 10	Albany	1 00	— —

From Port Richmond, Philadelphia.

Reported by the Coal Exchange, Oct. 18.

Albany (& towing)	$1 70@	— —	Neponsett	$0 00@	.. ..
Alexandria	1 50	— —	Newburg	1 68	— —
Appanoag	2 00	— —	New Haven	1 80	— —
Aspinwall	7 00	— —	New London	....	— —
Bangor	2 00	— —	Newport	....	— —
Bath	2 40	— —	Newport, R. I.	1 90	— —
Baker's Landing	—	— —	New York	1 60	— —
Bedford	—	— —	Norfolk	1 60	— —
Boston	2 05	— —	Norwalk	....	— —
Bridgeport	1 60	— —	Norwich	1 90	— —
Bristol	1 90	— —	Parkshell	....	— —
Cambridgeport	2 40	— —	Pawtucket, & tow'g	2 25	— —
Catskill (& tow)	2 00	— —	Petersburg	2 00	— —
Charleston, S. C.	2 25	2 50	Portland	2 00	— —
Charlestown	2 10	— —	Portsmouth, N. H.	2 00	— —
Chelsea	2 00	— —	Providence	1 65	— —
Cohasset Narrows	—	— —	Poughkeepsie, & t'g	1 60	— —
Davenport	2 00	— —	Port Chester	1 60	— —
Dighton	2 00	— —	Plymouth	2 25	— —
Dorchester Point	—	— —	Richmond	2 00	— —
East Cambridge	—	— —	Rockland	2 30	— —
East Greenwich	1 75	— —	Roxbury	2 25	— —
Fall River	2 00	— —	Saugus	2 50	— —
Fredericksburg	—	— —	Singsing	1 60	— —
Georgetown	1 50	— —	St. Johns (in gold)	2 00	— —
Gloucester	2 25	— —	Salem	1 75	— —
Hudson	..	— —	Savannah, Ga	2 00	— —
Jantown and tow	..	— —	Stonington	2 25	— —
Kennebrook Point	—	— —	Washington, D. C.	1 60	— —
Lynn and dis	2 20	— —	Weymouth't'g&pil'g	2 00	— —
Milton	2 50	— —	West Point & tow	1 70	— —
Malden	2 50	— —	Wilmington	2 00	— —
Mobile	5 12	— —	Winterport	2 00	— —

From Georgetown or Alexandria.

To Philadelphia	$2 00	— —	Boston	2 50	— —
New York	2 25	— —			

From Baltimore.

To Philadelphia	$1 75@	— —	Boston	2 25@	— —
New York	2 00	— —			
do by Canal	2 65	— —			

Canal Expenses from Mauch Chunk to N. Y.

Lehigh Canal (net)	58
Delaware Division Canal	42
Delaware & Raritan Canal	50
Towage, New Brunswick to New York	25
Freight, Mauch Chunk to New York	$1 55
Total	$3 30

Freights on Coal to Elizabethport.

L. V. R. R. from Mauch Chunk to Easton	$1 15
C. R. R. of N. J., Easton to Elizabethport	1 70
	2 85
Shipping expenses at Elizabethport	25
Total	$3 10

Via Morris Canal.

Lehigh Canal	58
Morris "	90
Towage	12½
Freight	$1 80
Total	$3 40½

Expenses from Mauch Chunk to Jersey City for Reshipment.

Lehigh tolls (net)	— 58
Morris tolls	— 75
Freights	1 75
Reshipping	— 30
Total	$3 38

WEEKLY COAL TRADE CIRCULAR.

NEW YORK, Oct. 19, 1866.

The Coal trade still continues inactive, and we have no change to note in prices. The city dealers are moderately busy at fair paying prices, and are most of them reducing their stocks in yard. Shippers have reduced their production, and are firm at prices current this month. All feel that the lowest prices for the season have been reached, and as the fall trade has now commenced, with the close of the shipping season at hand, (only one week left,) a better feeling prevails, and an increased demand is anticipated.

L. A. & Co.

NEW YORK METAL MARKET.

(CORRECTED WEEKLY.)

COPPER—Ingot	Lake Superior, ℔ lb., cash.	.. 30½	.. 31
	Baltimore	.. 31	.. ..
	Pig Chili	.. ..	.. ..
	Bolts	.. 43	.. ..
	Braziers	.. 42	.. 43
	Sheathing	.. 45	.. ..
	Yellow metal	.. 32	.. ..
IRON—Pig	No. 1 Scotch, ℔ ton	49 00	52 00
	No. 1 American	50 00	50 00
	No. 2 "	45 00	46 00
	No. 2 Charcoal	.. ..	.. ..
Bar	Swedish, ordinary sizes	170 00	.. ..
	Amer. and Eng refined	125 00	145 00
	" " common	115 00	120 00
	Rails, American currency	.. ..	.. ..
	" English gold	.. ..	.. ..
	Horse shoe iron	150 00	160 00
	Rods 5-8@3-16rd. and sq	130 50	1850 0
	Band	155 00	.. ..
	Nail rods, 5-8 and 3-16	122 50	185 00
	Hoops	160 00	223 00
	Sheets, Russian, ℔ lb	.. 28	.. 0
	" English "	.. 6¼	.. 9
	" American "	.. 25	.. 25
	Boiler Plates, English	.. ..	.. ..
	" American	.. ..	.. ..
STEEL	Best cast in bars, war	.. 25	.. ..
	Best sheet cast, "	.. 25	.. ..
	Best cast circular saw plates 46 in	.. 31	.. ..
	Double shear steel, war	.. 25	.. ..
	Single " " "	.. 22	.. ..
	Montague & Co. C S., in bars	.. 22	.. ..
	Round machinery cast	.. 16	.. ..
	Best German	.. 16	.. ..
	Government German	.. 13	.. ..
	Eagle German	.. 15	.. ..
	(L.) Blister, war	.. 21	.. ..
	W. Jessop & Sons, blister, war	.. 18	.. ..
	Double refined	.. 26½	.. ..
	Stone Axe shapes	.. 26½	.. ..
	Common blister	.. 15	.. ..
	2d quality sheet	.. 22	.. ..
	3d quality sheet	.. 18	.. ..
LEAD	American, per 100 lbs	.. ..	.. ..
	German Gold	6 80	7 00
	Spanish "	6 87½	7 00
	English "	6 87½	7 25½
	Bar, per 100 lbs	10 50	.. ..
	Pipe and sheet	10 70	.. ..
TIN	Banca Gov., per 100 lbs. gold	25	.. ..
	Straits	22	.. ..
	English	—	.. ..
TIN PLATES	IC 10-14 prime charcoal	15 25	.. ..
	IX 10-14 " "	18 25	.. ..
	IC 12-12 " "	15 75	.. ..
	IX 12-12 " "	18 75	.. ..
	IC 14-20 " "	16 25	.. ..
	IX 14-20 " "	19 25	.. ..
	IC 14-20 Roofing ch. 1st	15 25	.. ..
	IC 14-20 " " 2d	14 00	.. ..
	IC 14-20 " Coke	11 00	.. ..
	IC 10-14 Coke	11 00	14 50
SPELTER	Lehigh, per lb., currency	.. 11½	.. ..
	Foreign " gold	.. 6½	.. ..
ZINC	Mussulman & Amer	.. 13½	.. ..
SOLDER	No. 1	.. 24	.. ..
	No. 2	.. 22	.. ..
QUICKSILVER		.. ..	.. ..

SAN FRANCISCO STOCK MARKET.
Latest by Telegraph.

SAN FRANCISCO, Oct. 11.

Name.	Bid per foot.	Name.	Bid per foot.
Gould & Curry	550	Crown Point	925
Savage	1130	Yellow Jacket	725
Chollar-Potasi	100	Belcher	160
Ophir	175	Alpha	70
Hale and Norcross	1725	Imperial per share	80
Cal. Steam Navigation Co	—	Cal. State Telegraph Co	—

SPECIAL NOTICE.

☞ The well known Mining Engineer, E. B. Dorsey, now at the Everett House, leaves for California by the steamer of Nov. 1, and will return here by Jan. 1—an excellent opportunity for those owning mining property in the Far West, and who desire to have a personal report thereon by a competent person.

The Victoria Gold Fields and the Poor Rock there Worked with Profit.

[CONTINUED FROM OUR LAST.]

If the experience of the Black Hill company need verification by that of others, it will be found in that of the New Perseverance company, to which I have already alluded. Together they form a phalanx of evidence that cannot be shaken. Situated on the White Horse Flat, this company is also engaged in the reduction of an entire hill of mixed quartz and mullock. The stuff is run up a tramway of some five or six hundred feet in height, from the quarry to the mill. The quantity of quartz reduced is smaller, the stamps being smaller and only 24 in number. The entire plant was erected for less than £4,000, including a second engine and the necessary gear for winding purposes. The tailings give little trouble, as there is a large fall, and the rate of wages is somewhat less than is paid elsewhere. During the past year the profits have been about £1,300, or about one-third of the entire capital. There are other cases, however, in which poor quartz is worked; not taken bodily, but with all the disadvantages attending mining with shafts and drives, with the greater cost of cutting and that of winding added. The Wellingtonia Gigantica company may be cited, whose average of gold is small. In May last, for example, they crushed 1,000 tons, giving an average of 3 dwt.; an experience to which that of the Herculease and Bendigo is approximating. I might cite numerous others conducted variously, from the surveyor's reports, my time not having permitted me to look into these affairs myself. The Union company, for instance, their May crushing had an average of 2 dwt. 7 grs, from 600 tons; Eureka Grant Co, had an average of 5 dwt. from 430 tons; Danish Co., 4 dwt. from 250 tons; Cornish Co., 3 dwt. 2½ grs. from 800 tons; Canadian Co., 2 dwt, 8 grs. from 450 tons; Old Canadian Co., 3 dwt. from 900 tons; Independent Co., 2 dwt. 8 grs. from 1,100 tons; Majestic Co., 2 dwt. 5 grs. 1,200 tons; Two and Two Co., 1 dwt. 12 grs. from 700 tons; Golconda Co., 2 dwt. 12 grs. from 800 tons.

Some of the quartz companies have to deal with better stuff, Beckman & Co., having got from 40 tons, 25 dwt.; Globe company, 30 dwts. from 91 tons; the Band of Hope company, 24 dwts. 8 grs. from 420 tons, and others from 7½ to 10 dwt. But as a rule the quartz of Ballarat is poor, the average yield of the stone per ton in one district in the north referred to having been only 4 dwts. and 12 grs. In no other part of the colony has the quartz been so scantily furnished with gold. This circumstance no doubt, forced to the attention of the reefers the necessity of solving the problems of how to treat poor quartz; and it is well the selection fell to men accustomed to deal with mining difficulties and triumph over theory. What has been done here can be done elsewhere, now that "how to do it" has been shown. Surely it is a great feat that quartz averaging less than 3 dwt. per ton can be made to pay 30 per cent. per annum on a large capital, proving, as it does, that quartz mining may be profitably carried on while a reef or hill remains unreduced in Victoria; for it is rare indeed that quartz is found utterly barren or giving so small a yield as 1½ dwt. per ton.

METHOD OF EXTRACTING GOLD FROM QUARTZ.

The best method of extracting gold from the veins of quartz has necessarily engaged the attention of miners, as well as the scientific men among us, since the first discovery of auriferous quartz, now about ten years ago. Originally the processes adopted were primitive enough. Unless gold could be seen in the stone in some abundance, the reef which gave it was pronounced worthless, and only those rich veins which held quartz yielding four and five ounces to the ton and upwards, were considered worthy of attention. The richest of the stone was knocked down with hammers, and the miners resorted to the slow process of separating the gold from the quartz with a mortar and pestle, washing off the sand and debris from the bright particles of metal in the same way as he washes his pan-full of gravel from the alluvial. To this slow process strong coffee mills succeeded, and after those jiggers, as they were called on the Bendigo, with which some splendid returns were obtained. This apparatus was neither more nor less than an iron stamp fastened to a shank of timber which in its turn was fastened to the bough of a tree and suspended a foot or more, etc. In the course of time the Badder machine came into operation, with its little wooden stamps iron-headed, and its great rolling iron balls in the amalgamating basin—a machine in which good crushing was obtained, but which could not be kept in working order any length of time, and which could only put through small quantities of material, inconsistent with the progress of reefing and the large quantities of poor quartz requiring more active treatment. Other inventions succeeded, such as the rotary battery of King & Howland, and from year to year it has been progressing, until such gigantic and perfect plants as those of the Black Hill company of Ballarat leave little more to be desired, while careful experiments in saving the gold thus liberated from the matrix—experiments often originating and always spiritedly tested at the Pat Philips Works—have established certain propositions of such a practical character. It is known now how the fine gold as well as the coarse may be saved with little loss when the stone abounds in pyrites. And it has been ascertained that whenever the baser metals abound in quartz in the form just mentioned, much gold has been lost, and that a process had still to be brought into use by which pyrites may be separated and treated for the saving of the large amount of gold they almost invariably contain. Simultaneously with these improvements the cost of quartz crushing has been very largely reduced. Ten years ago the charge for the reduction of a load of quartz ranged from ten to fourteen pounds, and cartage in proportion. Six years ago crushing was charged for at from five to eight pounds. Now the price varies from ten to sixteen shillings per ton in stamping mills, with cartage from two to three shillings. Only the most valuable quartz could be crushed in the earlier days, and in late times nothing less than three ounces per ton would pay. Often the crushing of stone, comparatively of rich quality, left the unfortunate miners indebted to the quartz crusher, and as a consequence reefs were abandoned on all hands that have since been found valuable possessions. Now an ounce per ton is considered "payable." In Inglewood, 8 dwt. return an excellent profit, and in all other easily accessible districts of the colony. In Bendigo three to four dwts. are barely sufficient to pay the expenses under favorable circumstances; but at Ballarat, as previously shown, a very handsome dividend is got from quartz yielding 2½ dwt. per ton. When that experience becomes more general, how largely reefing will be developed in this colony may be inferred from the large number of distinct reefs of an auriferous character which have already been discovered, and the vast numbers that must still be hidden. I find from the last issued reports of the mining surveyors, that 1,302 gold bearing veins of quartz, have already been opened in the colony, and I may assert without bordering on the extravagant, that only a tithe of our treasure in quartz reefs have yet been discovered. Like the reefs themselves, the method of treating the quartz as it issues from the stamps, is as various as can be conceived possible. And, I need scarcely add that every quartz-crusher with whom I have conversed looks on his own system as the best. I shall glance at a few of the mills, with a view to show the difference that exists. Comparative results are more difficult to obtain, and if I state my own conclusions after comparing notes, I shall do so as a matter of opinion only, subject to conviction from those who have had opportunities of making fair comparative trials of different systems. In Maldon, not many months ago, almost all the various systems might have been seen at work. The Atlas company bore the belt from all competitors. Quartz taken from the same reef—taken under the most difficult circumstances—invariably producing more gold there than elsewhere. The quartz, which contains mundic like that from Lindscott's reef, was calcined to drive off the mundic and active pyrites, and then passed under heavy square stamps. Riffles and copper plates were used, and after that Chilian basins, in which the amalgamation was completed. The basins were the cause of the superiority of the mill. At the Concord works riffles and copper plates alone were used, but they failed to save the small quantity of gold in the stone. Blanket tables were then added and they proved so efficacious that only a shade of difference remained in favor of the Atlas. The Parker's Reef company have a splendid battery of revolving stamps with copper plates and riffles, and have added an amalgamating barrel which has been found of considerable use. At the Eagle company works Tyrolease mills, introduced by Mr. Vaughn of Castlemayne as a moderator of the Cnilian wheel system, has been in successful operation. They cost a large sum of money to erect, but the gold saved by them after passing over copper plates and riffles, has paid their entire cost within a year and a-half. At Linscott, where similar plans were erected after riffles and plates, a test was recently made as against ten feet of blankets placed between the boxes and the pans. From the blankets 70 ounces and one pound of amalgam were obtained per week, and from the revolving pans below them 7 to 10 dwt. When the blankets were not used there was a considerable loss of quicksilver, and extra power required to drive the pans. When blankets were placed behind the pans about twelve ounces of amalgam were obtained regularly from them. The trial resulted in the substitution of blankets,

[CONCLUDED IN OUR NEXT.]

Patent Claims.

Interesting to Miners, Millmen, Metallurgists Oil-Men and Others.

The following claims have recently been issued from the United States Patent Office:

58,467.—MANUFACTURE OF GUNPOWDER.—F. S. Allen, New York city:

I claim the within-described process of saturating paper or other substance with an explosive compound, by boiling the same together, substantially as set forth.

58,639.—Miner's Fuse Lock.—Gebhard Hagenmeyer, Big River, Cal.:

I claim, 1st. As an improved lock, the arrangement of the hammer, c, sere or dog, g, spring, e, pin, j, and barrel, b, relating to each other, and operating in the manner as and for the purpose herein specified.

2d. The pin, j, in combination with the spring, e, when used for the purpose herein represented and described.

58,648.—Construction of Oil-tanks.—Thaddeus C. Joy, Titusville, Pa.:

I claim the method, substantially as described, of constructing metal tanks for the purpose of rendering them portable.

58,650.—Driving Pipe for Oil-wells.—Geo. L. King, Philadelphia, Pa.:

I claim, 1st. The combination of the inner pipe, B, strengthening bands, D, and thimbles, C, the several parts being constructed and arranged in relation to each other, substantially in the manner hereinbefore described and for the purpose specified.

58,656.—Blasting Cartridge.—Herman S. Lucas, Chester, Mass.:

I claim, 1st. A cartridge for blasting, made of solidly compressed gunpowder, containing either nitrate of potash, or nitrate of soda, or granulated, or of any other suitable explosive material capable of being safely compressed into a suitable form for blasting purposes, and provided with any suitable device for igniting the same from the interior.

2d. The combination of a cylindrical cartridge of solidly compressed gunpowder, or other explosive materials for blasting, with a central perforation extending partly or wholly through the same, constructed in the manner and for the purpose above described.

3d. The combination of a cartridge of solidly compressed gunpowder, or other explosive materials for blasting, with a fuse, when said fuse is inserted into its interior, in the manner and for the purpose set forth.

4th. The combination of a cartridge of solidly compressed gunpowder for blasting purposes, with an envelope of paper or other textile material made impermeable to water, or with envelopes, or casings of sheet metal, earthenware, or wood, the same being attached to the fuse in the manner and for the purpose set forth.

58,660.—Composition for Removing Incrustation from Steam Boilers.—Charles McKee, San Francisco, Cal.:

I claim the combination of camphor, potash, ammonia, and alum with petroleum or other oleaginous matter, substantially as described, and for the uses and for the purposes hereinbefore set forth.

58,666.—Annealing Furnace.—Hiram W. Moore, Bridgeport, Conn.:

I claim the openings, a, a, at the base of the annealing case, in combination with the annular flue, F, and perforated plate, J, for admitting atmospheric air to promote the combustion of the carbon in contact with the wheels, substantially as described.

I also claim, in combination with the case, A, the opening, b, the horizontal air-flue, G, and the vertical flue-space, H', for conveying air to and cooling the hubs of the wheels, substantially as described.

I also claim, in combination with the annealing furnace for containing a pile or series of wheels, the series of perforated and flanged rings to be placed between said wheels, for regulating and controlling the combustion of the charcoal therein, as and for the purpose described.

58,676.—Machine for Punching Sheets of Metal.—J. M. Riter and L. J. Farquhar, Pittsburg, Pa.:

We claim the combination of the adjustable diagonal rack, E, with the rack-table, D, and its ratchet, h, for the purpose of regulating and varying at pleasure the length of each separate movement of the rack-table.

2d. The combination of the rack-table, D, and the turning-frame, k, attached thereto by a rivet for the purpose of producing a curvilinear movement.

3d. The combination of the rack-table, D, and frame, k, pivoted thereto with the adjustable angle plate, L, and rollers, g', g'', or other similarly arranged bearing surfaces, constructed substantially as and for the purposes hereinbefore set forth.

4th. Also, in combination with the devices specified in the third claim, we claim the slide, q, with screw, J, and spiral springs, u, constructed and arranged substantially as hereinbefore described, for the purpose of pressing the frame, k, against the rollers.

78,721.—Pipe for Oil Wells.—John H. Duck and Elias K. Whitcomb, Elgin, Ill. (Said E. K. Whitcomb assigns his right to James T. Whipple, Chicago, Ill.):

We claim a tube or screw, S, suspended within the main tube, L, by means of flanges, v, v'', in combination with the several parts of the within-described device, for the purpose specified.

58,736.—Dumping Car for Coal Mines.—M. G. Smith and William P. Stevens, assignors to M. G. Smith, Kingston, Pa.:

We claim, 1st. The tilting or adjustable guides, G', G', constructed and operating substantially as shown and described.

2d. The use of the fan, J, or its equivalent, for the purpose of tilting or inclining self dumping carriages, so as to dump or unload the car without removing it from the carriage while slacking off, substantially as herein shown and described.

3d. The combination of a fan or support with the adjustable guides, substantially as shown and described.

4th. The combination of the weighted arm, L, with the fan, a, or support, substantially as herein shown and described.

5th. The combination of the dog, N, with the weighted lever, L, and fan, J, substantially as herein shown and described.

6th. The combination of the hook, n, with the arm, L, and fan, J, substantially as herein shown and described.

7th. The combination of the latch, S, with the arm, L, substantially in the manner herein shown and described.

8th. The combination of the bar, O, and arm, P, with the pan, J, and guide, G', substantially as and for the purpose herein shown and described.

Special Scientific Brevities.

☞ The modes of gestation among fishes is astonishingly various. Some are viviparous. In several species the eggs are carried about the outside of the body of one of the parents. In some the eggs are attached to the forward fins and under side of the head. Some are carried and hatched in a pouch precisely analagous to that of the kangaroo. In Guiana, during the breeding season, cat-fish are offered for sale with their mouths literally crammed with eggs and young in different stages of growth and development. Agassiz has recently observed in Brazil that many species of chromoids carry their eggs at the back part of their mouth, and that some species of the loricarias carry their eggs attached to the broad membrane which surrounds their mouth.

☞ The cause of the destruction of photography, apparently by the action of time only, is generally considered to be due in reality to the presence of a minute quantity of hypo-sulphite of soda. Hitherto the only plan of getting rid of this agent has been long and continuous washing in hot and cold water. Dr. Smith suggests oxidizing the hypo-sulphite of soda into sulphate of soda (which is harmless) by dilute peroxid of hydrogen. The strength of the solution does not require to be great. If diluted a thousand times, a solution is obtained capable of oxidizing hypo-sulphite. It appears that all the hypo-sulphurous acid is instantly converted.

☞ Goldsmiths often complain of the hardness of silver, which is sometimes very difficult to carve, and presents a dead gray cut. These properties are generally attributed to the presence of a foreign metal; but M. Mathey, assayer at Locle, has shown that in this silver there is neither tin, lead, nor any other injurious metal. He considers this property to be due solely to the high temperature at which silver is cast. By letting the crucible cool till a slight solid crust is formed on the surface of the fused metal, and casting at this moment, a soft silver with a brilliant cut is obtained.—*Dingler's Polytechn. Journal.*

☞ A paragraph has recently been going the round of the scientific journals, to the effect that, if the toned prints be placed in a five per cent. solution of common salt, which is then to be raised to the boiling point, and left ten minutes, they will be perfectly fixed, and merely require washing. What advantage is to be gained by this troublesome process is not stated. It is certain that a very careful washing would be necessary, for traces of a chloride left in the print would gradually tend to destroy it.

☞ According to M. Kletzinsky, there is employed, to a certain extent, in the dressing of light tissues, crapes, tulles, etc., a particular blue, the tint of which is in no way modified by artificial light. This blue is sulphindigotate of copper. It is prepared by dissolving indigo in Nordhausen sulphuric acid at 20°; after twenty-four hours, dilute with water, filter, saturate the liquid by carbonate of copper, and evaporate the filtered solution. —*Dingler's Polytechn. Journal.*

☞ During the operation of smelting zinc, a large portion of the metal escapes in the form of vapor, consisting of finely-divided metallic zinc. This vapor is known by the workmen as "zinc fume." When it has cooled, it is deposited as fine dust on every projecting part of the smelting works. A continental manufacturer has recently proposed to utilize this substance, by grinding it with varnish, and appplying it to iron as a preservative against rust. The principle of the operation, it will be seen, is the same as that of galvanizing, but the coating of metallic zinc is applied in a different manner.

☞ A solution of gold was, in the early days of chemistry, deemed impossible. It was first found that limited proportions are soluble in sulphuric and nitric acids together, and it is now ascertained that it is easily soluble in the ethereal solutions of the perchlorides and perbromides. Hence, if gaseous hydriodic acid is transmitted into ether containing leaf gold, it will be dissolved and the acid decomposed.

☞ Dr. Memorsky and Professor Brucke, in a paper communicated to the Vienna Academy, describes diffused daylight as decidedly red-ish, just as gas and lamplight is yellow. The only perfectly white light, they say, is the electric light from carbon points. The light of burning magnesium and the combustion of phosphorus in oxygen, they add, is violet.

☞ Dr. Boettger proposes a new process for giving brilliant coatings of color to zinc by chemical means, which consists in merely dipping the zinc for a longer or shorter time into a warm cupresodic solution. It is said that very beautiful colors can be produced in this way.

☞ A noteworthy suppression of temperature was obtained in melting together 207 grammes of lead, 118 of tin, 284 of bismuth, and 1,617 of mercury. In the formation of this composition the temperature suddenly changes from 17° C. to 10° C. F.

☞ Some one writes: "I wrote you how long it was supposed that the world would still exist. I now can tell you how long it is supposed the world *has* existed: *One hundred and fifty million years!*" That is the latest calculation; the next may be greater still.

☞ It is now proposed to treat wasting diseases, particularly consumption, with an emulsion of beef fat or lard by the pancreatic juice made to about the consistency of cream. Half an ounce is to be taken three times a day.

☞ The violence of the expansion of water when freezing is sufficient to cleave a globe of copper of such thickness as to require a force of 28,000 lbs. to produce a like effect.

☞ Aluminum and tin are now gilded and silvered so completely that the layer cannot be disturbed by the hardest burnisher.

Mineral and other On-dits.

☞ The Austrian empire is one of the few countries producing the important article of quicksilver in sufficient quantities to allow of a large exportation of it after meeting every demand of its own industrial establishments. The chief produce of Austria is from the mines of Idria, in Corinthia. In 1864 the production for the whole empire was 5,384 cwt., of which 3,000 cwt. were exported.

☞ Recently, in a lead mine near Memphis, Tenn., some specimens of red sandstone were broken open, and one was found to contain a petrified human hand, in a perfect state of preservation. In other cases, parts of animals were found, and a black snake some five feet long was found, of the consistency and weight of the stone.

☞ The silver mines of Sunium, Greece, after a lapse of 2,294 years, are now worked by a French company, principally for the produce of lead. The works employ continually 400 workmen, and work seven furnaces. From ten to twelve British vessels take the coal required, returning to England with cargoes of lead.

☞ A quartz mining company in Plumas county, Cal., pay one of their hands five hundred dollars a month. He has some secret by which he can make a "dope," which he mixes with the quartz in the battery, and saves one-third more gold than by any ordinary process. The company pay him to keep his mouth close.

☞ The Columbus *Enquirer* says: We have all that Pennsylvania has, in coal, iron and water-power, without her harsh winter climate. We have products impossible to her soil. The war has hewn a pathway for southern energies in a new direction.

☞ The increased quantity of coal thrown into market this year over the supply of 1864, which was the largest quantity sent to market in a single year in the history of the trade, is upwards of two millions seven hundred thousand tons.

☞ Comparing 1864 with 1854, the coal production of the United Kingdom increased to the extent of 43 per cent. on the ten years. The value also increased in about the same proportion, which indicates that prices varied but slightly.

☞ There is a glut of American silver in Canada, and, except at brokers' offices, those who hold it cannot in the lower Province sell the quarter dollar for more than twenty cents, and even at Toronto it is current at only 23c, to 24c.

☞ In the Barytes Mine, in Cheshire, Conn., 300 men are employed, nearly all English and Irish. The hands are changed every eight hours. This mine is in a very prosperous condition.

☞ A good cement for the temporary closing of small holes or cracks in metal may be made of starch, by forming it into a paste with a concentrated solution of chlorate of zinc.

☞ A Litchfield, Conn., paper says: "Our peat men were badly sold a few days ago, by some wags, who made a splendid specimen from soot and water, and exhibited it as the genuine article.

☞ Eighteen tons of copper ore, from the Prince ledge, near Taylorville, Plumas county, Cal., lately smelted at Chapman's furnace, in Genessee, yielded four thousand pounds of copper.

☞ It is said that the black mould (Terre noire) found so abundantly in Canadian swamps, forms an excellent substitute for coal or wood, burns well and gives intense heat.

☞ At a white heat all magnetism disappears; it is still sensible in iron when heated to a dark red glow.

☞ Iron exists in the blood and preserves it; gold, or the love of it, exists in the heart and corrupts it.

☞ Victor Emanuel has the largest emerald in the world. It is 6 inches long, 4 broad, and 3 thick.

All Sorts.

☞ Attorney-General Stanberry has decided that ex-Secretary of the Interior Harlan had no right to dispose of the 100,000 acres of Cherokee Indian lands to the New England Emigration Society.

☞ We lately met a grammarian, says a California paper, who had just made a tour through the mines, conjugating, or rather cogitating, thus: "Positive, mine; comparative, miner; superlative, minus!"

☞ A man named Perry was recently caught by the Indians near Ruby City, Idaho, wooden pins driven through his body into the ground, and then his arms and legs cut off, in which awful condition he was found.

☞ A Paris tradesman announces that a five franc gold piece is secreted in one of every hundred sausages exposed for sale in his shop. The demand for sausages is something extraordinary.

☞ Some idea of the consumption of brass wire in the manufacture of pins may be gathered from the fact that one firm in Birmingham consumes 150 tons per annum.

☞ A female has been born in La Crosse with two perfect tongues. If she lives and marries, won't her husband catch it?

☞ "What are you looking after, daughter?" said an old man at a Christmas party. "Looking after a son-in-law for you, father!" was the reply.

☞ 15,000,000 pins are said to be daily called for in Great Britain, in the manufacture of which 2,727 tons of brass are consumed.

☞ In fifteen years licentiousness and dissipation reduced the population of the Sandwich Islands from 140,000 to 70,000.

☞ The delicacy of some of the ornamental cast-iron work, known as Berlin Iron, is such that it requires of some pieces 10,000 to weigh one pound.

☞ A man in Montreal swelled up and died from the effects of applying coal oil to a bruise. He said he felt all afire.

☞ "Will you let me drill you?" said the crowbar to the rock. "I'll be 'blasted' if I do," was the reply.

☞ It is stated that soap manufactured from coal oil is a better remover of dirt than that ordinarily used.

☞ General Dix is expected to embark for France some time during the latter part of the month.

☞ A country lawyer, who was the father of ten tall girls, often boasted that he had sixty feet of daughters.

☞ Why was Eve not afraid of the measles? Because she'd (h)Adam.

PROSPECTUS.

THE NECESSITY FOR A THOROUGHLY RELIABLE medium of information upon MINING MATTERS has been seriously felt by those interested in the mines and mills of the United States. THE AMERICAN JOURNAL OF MINING supplies that want.

It is under the editorial control of GEORGE FRANCIS DAWSON, whose reputation is too well established to require, on our part, any comment.

There is amply sufficient capital invested in the JOURNAL of MINING to insure its complete success.

THE JOURNAL OF MINING contains—or will contain in future issues:

Seventeen wide, solid colums of condensed summarized Mining (including Petroleum) intelligence from all parts of the American Continent.

Four to Five Columns of Editorial articles upon topics of interest to the mining community.

Two to Four Columns of original and selected papers on Mineralogy, Geology, Metallurgy, Assaying, Mining and other Scientific Subjects.

Five to Ten Columns of judiciously selected miscellaneous articles relative to mining, the kindred sciences, etc.

Carfully Compiled Directories of Petroleum, Gold, Silver, Copper and other American Mining Companies.

Full and comprehensive lists of Coal Freights, Tolls, and other matters interesting to the Coal Trade.

Latest Quotations of Mining and Petroleum Stocks in the New York, Philadelphia, Boston and San Francisco Markets.

Nevada Mining Stocks reported by Trans-continental Telegraph.

Latest Reports of the London and New York Metal Markets, with lists of Copper sales at Swansea and Redruth, England.

A valuable Table, showing the current market values of the various classes of Federal Securities.

A convenient list of the New York current prices of chemicals and implements used in Assaying.

A reliable list of Standard Works on Mineralogy, Geology, Metallurgy, Assaying, Mining, etc.

THE JOURNAL OF MINING also publishes reports of scientific ex-

perts relative to noteworthy mines and works; and beautifully illustrated Descriptions of new processes and recent inventions in Mine and Mill machinery. It is printed in the best possible manner, upon a very superior quality of paper, and forms a compendium of trustworthy information that must prove invaluable to mine-owners, practical miners, Mineralogists, Geologists Metallurgists and others.

Each number of the JOURNAL OF MINING comprises sixteen pages of interesting and valuable reading matter; two volumes per annum, each containing Four hundred and sixteen pages, forming an excellent and almost indispensable work of reference for all interested in Mining, Milling, etc.

☞ Published every Saturday, at 12 o'clock, M.

TERMS

SUBSCRIPTION.		ADVERTISING.	
Per annum, one copy -	$4 00	One Line [Nonp.] 1 inser'n.	0 30
Six months, one copy -	2 25	One Square, 10 lines, 1 do.	2 00
Three months, one copy -	1 25	One Square, do. 4 do.	5 00
Single copy - - - - -	0 10	One Square, do. one year,	40 00

Canadian Subscribers 25 cents extra for postage.

☞ Specimen Copies sent free.

Address WESTERN & COMPANY,
No. 37 Park Row, and 145 Nassau St., New York City.

FRANCIS E. ENGELHARDT, PH., DR.,
PROFESSOR OF CHEMISTRY IN ST. FRANCIS XAVIER'S COLLEGE,

Analytical and Consulting Chemist,

49 WEST FIFTEENTH STREET, NEW YORK.

Respectfully offers his Professional Services to

Miners, Manufacturers and Others.

CHEMICAL INVESTIGATIONS IN THE VARIOUS BRANCHES OF MANUFACTURING,

And

ANALYSES OF EVERY KIND

will be promptly and accurately executed. 23-tf

CHARLES P. WILLIAMS,

ANALYTICAL AND CONSULTING CHEMIST,

AND

MINING GEOLOGIST,

No. 138 WALNUT STREET, PHILADELPHIA.

Assays and Analyses of Ores, Soils. etc.,

Executed with Promptness and Accuracy.

EXAMINATION OF, AND REPORTS ON, MINERAL LANDS AND MINES FURNISHED ON APPLICATION.
10-ps

JULIUS G. POHLE, M. D.,
FORMERLY OF, AND SUCCESSOR TO,

Dr. JAMES R. CHILTON & CO.,

Analytical and Consulting Chemist,

No 489 BROADWAY, - - - - - - NEW YORK
(N W. COR. OF BROOME STREET.)

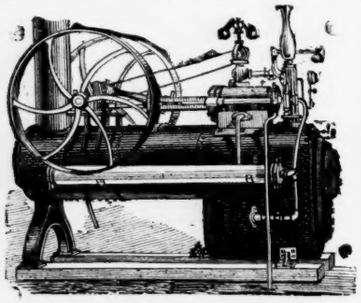
Analyses and Assays made of Ores of Gold, Silver, Quicksilver. Lead, Copper, Manganeese, Nickel, etc., etc.; Minerals, Alloys, Petroleum, Cummercial Articles, etc 1-tf

---

STEAM ENGINES AT 175 WASHINGTON ST., between CORTLANDT and DEY STS., NEW YORK.

FOR SALE, THE

JOS. CHAMPION" PREMIUM PORTABLE



AND STATIONARY ENGINES.

Also, Circular Saw Mills and the Empire Shingle Machine. Factory, Jersey City, N. J. Send for a circular.

JOS. CHAMPION & CO.,
24-pa Manufacturers.

To Inventors and Others.

The proprietors of the AMERICAN JOURNAL OF MINING have, connected with their establishment, Artists of experience and skill in

DESIGNING,

WOOD-ENGRAVING, and

LITHOGRAPHY.

Machinery, Buildings, Landscapes, etc., Designed and Engraved or Lithographed from a photograph or a plain comprehensive sketch, or from the object itself. Specimens of work ready for inspection. Terms moderate.

Inventors desirous of applying for Patents on their own account can have drawings for the Patent Office carefully and accurately executed,

AT VERY MODERATE RATES.

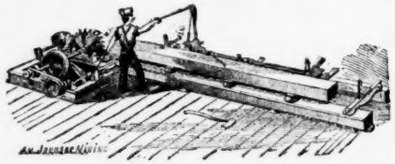
WINTER'S IMPROVED

PORTABLE CIRCULAR SAW MILL,

WITH ENGINE AND BOILERS, AND

Lane's Patent Set and Feed Works,

THE GREATEST IMPROVEMENT OF THE DAY.



The entire log of any length instantly and unerringly set at both ends at the same moment, by the sawyer, with a single motion of the hand. The Patentee, MR. LANE, OFFERS TO WAGER $10,000 that, from selected lumber, he will have cut with the "A" Mill of the above improvement and a single saw, 30,000 ft. of inch boards in twelve consecutive hours. If the party accepting the bet proves the winner, we pledge ourselves to present him with the Mill employed in the trial. Who is disposed to test our sincerity? Pamphlets furnished. Address

17-ps WINTER & CO., 40 Broadway, New York.

CONSOLIDATED LINE.

Great Through Route

TO

THE MINING REGION

AND

THE PACIFIC STATES.

The Holladay Overland Mail

AND

EXPRESS COMPANY.

having consolidated the property of the "OVERLAND STAGE LINE" and the "OVERLAND DISPATCH COMPANY"—comprising all the Overland stage lines running west from the Missouri river—and largely increased and improved their stock and coaches and reduced their rate of fares nearly 25 per cent, will run a

Daily Line of Coaches

to all the principal points in the gold mines of Colorado, Uta Montana, Idaho, Nevada, California and Oregon

They are now running daily coaches from TOPEKA, (in connection with the railroad from St. Louis,) via the "Smoky Hill" route; and from ATCHISON, Kansas, (in connection with the Hannibal and St. Joseph Railroad,) and from NEBRASKA CITY and OMAHA, via DENVER CITY, Colorado, to SALT LAKE CITY, in Utah; thence connecting with their line of coaches for Virginia City and Helena, in Montana; Boise City in Idaho; Walla-Walla Dallas City and Portland, Oregon.

At Denver City, Colorado, connecting with their double daily line of coaches for Central City, Blackhawk and Empire City.

Passengers for New-Mexico and Arizona also connect at Denver, with a tri-weekly line of coaches for Fort Union, Taos, Sante Fe and other points in those territories.

Passengers for Nevada and California connect at Salt Lake City with daily coaches for Austin, Reese River, Virginia City, Nevada Humboldt and San Francisco, California.

This Company will also, at an early day, run a line of stages from Salt Lake City through the silver mining district of the Parahuagett Valley to Collville, at the head of navigation on the Columbia River.

RATES OF FARE:

Between Topeka, Atchison, Nebraska City, Omaha, and Denver	$125
Between same points and Salt Lake City	250
Between Denver and Salt Lake City	150
Between Salt Lake City and Boise	125
Between Salt Lake City and Virginia City	125
Through tickets from the Missouri River to Boise and Virginia City	350

TIME:

To Denver City 5 days,
To Salt Lake 9½ days,
To Boise 12½ days,
To Virginia City 13 days,
To San Francisco 16 days.

A treasure and freight express, carried on mail time, in charge of trustworthy and competent messengers, to all of the above named points.

For further information,
Apply at the office of the Company,
No. 35 William street, corner of Exchange place, New York

BEN. HOLLADAY, President.
W. S. GURNEE, Vice President.
WM. H. FOGG, EUGENE KELLY, S. L. M. BARLOW, } Directors.
GEO E. COCK, Treasurer.
GEO. K. OTIS, Secretrry.

TURNING LATHES.

American Institute 1865 Prize Medal

TURNING LATHES,

For Foot or Steam Power,

MANUFACTURED BY

James Stewart's Son,

AT 252 CANAL STREET, ENTRANCE, 107 ELM STREET, N. Y.

ESTABLISHED 1826.

17-ps ADAM STEWART.

CARD.—Professor H. DUSSAUCE, Chemist, lately from the Laboratory of the French Government, has resided in Europe several months. He takes occasion to inform his numerous friends that he has returned and is ready to give all necessary information on chemical processes, fabrications, etc.; etc. Address, New Lebanon, Columbia County, N. Y.

IMPORTANT AND VALUABLE WORKS

ON MINING, MINERALOGY, GEOLOGY AND METALLURGY.

ANSTED'S Gold Seeker's Manual. 1 vol. 12mo, cloth...$ 1 75

ANTISELL.—The Manufacture of Photogenic or Hydro-Carbon Oils, from Coal and other Bituminous substances, capable of supplying Burning Fluids. By Thomas Antisell, M. D. 1 vol 8vo..... 3 00

BUCKLAND (Rev. Wm.)—Geology and Mineralogy 2 vols. 9vo, hf. cf 20 00
2 cloth. 8 vo, cloth..... 10 00

BLAKE (Wm. P.)—Report of a Geological Reconnoissance in California. 1 vol. 4to, illst..... 10 00

COQUAND.—Traite des Roches. 1 vol. 8vo, hf. mor..... 5 25

DANA'S Manual of Mineralogy. 1 vol. 8vo..... 2 25
Text Book of Geology. 1 vol. 12mo..... 2 00

DEGOUSSEE.—Guides des Sondeur et des Sondages. 2 vols. and Atlas, half mor..... 19 50

DUFRENOY.—Mineralogie. 5 vols. 8vo..... 20

FOSTER AND WHITNEY.—Report of the Geology of the Lake Superior Land District. The Iron and Copper Regions. 2 vols. 8vo, and maps (scarce)..... 10

FAIRBAIRN.—Iron: its History, Properties, and Processes of Manufacture. By Wm. Fairbairn, C. E., LL. D. 1 vol. 8vo. New Edition..... 3 75

FEUTCHWANGER.—A Treatise on Gems. 1 vol. 8vo, cloth..... 1 50

GREENWELL (G. C.)—A Practical Treatise on Mine Engineering. Handsomely illustrated. 1 vol. 4to, hf. mor. 27 50

GOODYEAR'S Translation. A Treatise on the Assaying of Copper, Lead, Silver, Gold and Mercury, from the German of Th. Bodeman and Bruno Kerl. 1 vol. 12mo, cloth. 2 50

HUMBLE.—Dictionary of Geology and Mineralogy. Third Edition. 1 vol. 8vo, cloth..... 3 50

HOSKOLD'S Practical Treatise on Mining Land and Railway Surveying, Engineering, &c. 1 vol. 8vo, cloth..... 15 00

JACOBS.—Precious Metals. 2 vols. 12mo..... 12 00

KURR'S Mineral Kingdom. 1 vol. 4to, colored plates.... 15 75

KING (C. W.)—Natural History, Ancient and Modern, of Precious Stones and Gems. 1 vol. 8vo, cloth..... 10 50

KUSTEL.—Nevada and California Processes of Silver and Gold Extraction, for general use, and especially for the Mining Public of California and Nevada; also, a description of the General Metallurgy of Silver Ores. By Guido Kustel, Mining Engineer. Illustrated by accurate engravings. 1 vol. 8vo, cloth..... 8 00

LAMBORN.—Rudimental Treatise on the Metallurgy of Copper. 1 vol. 12mo, limp cloth. Illustrated..... 1 00
—— Rudimentary Treatise on the Metallurgy of Silver and Lead. 1 vol. 12mo, limp cloth. Illustrated..... 1 00

LONG (Major S. H.) Account of an Expedition from Pittsburgh to the Rocky Mountains, performed in the years 1819 and 1820. Compiled by Edwin James, Botanist and Geologist for the Expedition. 4 vols. 12mo, hf. cf..... 50 00

McCORMICK.—Arizona; its Resources and Prospects. Pamphlet, 32 pp. with map. By R. C. McCormick (Secretary of the Territory)..... 00 25

MITCHELL'S Manual of Practical Assaying. 1 vol. 8vo, cloth..... 10 50

MAKINS.—A Manual of Metallurgy, more particularly of the Precious Metals, including the Methods of Assaying them. By. G. H. Makins. 1 vol. 12mo, cloth. Illustrated by upwards of 50 engravings..... 3 50

MAP of the "Reese River" Mining District..... 3 00

MULLAN'S Miner's and Traveller's Guide to Oregon, Washington, Idaho, Montana, Wyoming, and Colorado, via the Missouri and Columbia Rivers. 1 vol. 12mo..... 2 00

OVERMAN (Fred.)—A Treatise on Metallurgy; comprising Mining, and General and Particular Metallurgical Operations. 1 vol. 8vo, cloth..... 8 00
—— The Manufacture of Iron in all its Various Branches; including a description of Wood-cutting, Coal-digging, etc. 1 vol. 8vo, cloth. (Scarce)..... 15 00

PIGGOT.—The Chemistry and Metallurgy of Copper. By A. Snowden Piggot, M. D. 1 vol. 12mo, cloth..... 1 50

PHILLIPS AND DARLINGTON.—Records of Mining and Metallurgy; or, Facts and Manoranda for the use of Mine Agents and Smelters. By J. A. Phillips and John Darlington. 1 vol. 12mo, cloth..... 2 50

PERCY (John).—Metallurgy; the Art of Extracting Metals from their Ores, and adapting them to various Purposes of Manufacture. Vol. 2, Iron and Steel. 1 vol 8vo, cloth..... 21 00

SCOFFERN'S Useful Metals and their Alloys 1 vol., cloth..... 3 75

SOPWITH (T.)—A Treatise on Isometrical Drawing as applicable to Geological and Mining Plans. 1 vol. 8vo, cloth (very scarce)..... 15 00

SWEET S. H.)—Special Report on Coal; showing its Distributions, Classification and Cost, delivered over Different Routes to various Points in the State of New York, and the Principal Cities on the Atlantic Coast. By S. H. Sweet, late Deputy Engineer and Surveyor of the State of New York. Transmitted to the Legislature, March, 1865. 1 vol. 8vo, cloth..... 3 00

TAYLOR.—Statistics of Coal; including Mineral Bituminous Substances employed in the Arts and Manufactures. Second Edition. By R. C. Taylor. 1 vol. 8vo, cloth. ... 6 00

TRURAN (W.)—The Iron Manufacture of Great Britain, Theoretically and Practically considered; including Descriptive Details of the Ores, Fuels, and Fluxes employed, the Preliminary Operation of Calcination, the Blast, Refining, and Puddling Furnaces, Engines, Machinery, etc. Third edition, revised. Illustrated. 1 vol. 4to.... 20 00

WHITNEY.—A Geological Survey of California. Report of Field Work, from 1860 to 1864. By J. D. Whitney. 1 vol. quarto..... 6 00

WHITNEY (J. D.)—Silver Mining Regions of Colorado. paper..... 00 25

Together with a Large Stock of Engineering and Mechanical Books.

For sale by WESTERN & COMPANY, Office JOURNAL OF MINING, 37 Park Row.

☞ Catalogues of Scientific works sent post-paid on application

CHARLES SILVER, WHOLESALE DEALER IN

COAL.

Office, 19 Trinity Building,

111 Broadway, New York.

SOLE AGENT FOR

Buck Ridge, Shamokin, and Manchester Red Ash Coals.

Also constantly receiving DIRECT, FROM THE MINES, consignments of Lehigh, Locust Mountain and Schuylkill White and Red Ash Coals. 26-tf

AECHTERNACHT & CO.,

113 Broadway,

H. A. AECHTERNACHT. H. W. BRINTNALL, } **NEW YORK.**

AGENTS FOR	ALSO SHIPPERS OF
Preston Coal and Imp't Co.'s	Wilkesbarre, Lehigh,
and	Shamokin,
Jno. J. Dovey, Son & Co's	Cumberland and
Locust Mountain and Red Ash	Broad Top.

27-tf COAL BY THE CARGO.

Transportation Department

OF THE

SCHUYLKILL NAVIGATION COMPANY,

Joseph L. Wilkins,'

General Agent,

No. 111 Broadway,

NEW YORK.

Wharf, Forty-seventh street, E. R.

27-tf Office, No. 7 Trinity Building.

LOUIS AUDENRIED & CO.,

Miners and Shippers of the following

CELEBRATED ANTHRACITE COALS,

FROM PHILADELPHIA AND THE MINES.

Diamond	Red Ash.	Locust Mountain	White Ash.
Spohn	" "	Black Heath	" "
Orchard	Pink "	Spring Mountain	Lehigh.
Broad Mountain	White "	Wilkesbarre,	

FROM ELIZABETHPORT AND JERSEY CITY.

Also, the superior CUMBERLAND COALS.

Lehigh, Hazleton, Council Ridge and Wilkesbarre Coals.

Broad Top.	Barton.	Barton.
Semi-Bituminous,	Georges' Creek,	Georges' Creek,
at Philadelphia.	at Baltimore.	at Alexandria.

205 Walnut street, PHILA. 14 Kilby street, BOSTON.
30 Westminster street, PROV. 24 Second street, BALTIMORE.

27-tf 110 BROADWAY, NEW YORK.

JOHN WHITE, SHIPPER OF

WILKESBARRE COAL,

FOR STEAM AND FAMILY USE.

OFFICE,

27-a **Room 21, No. 8 Wall street, N. Y.**

E. A. PACKER & CO., MINERS,

SUGAR LOAF AND ROOM RUN

LEHIGH COAL.

OFFICE,

50 TRINITY BUILDING,

111 Broadway,

37 i **NEW YORK**

COAL.

AMERICAN AND FOREIGN, BITUMINOUS AND ANTHRACITE,

FOR

MANUFACTORIES, STEAMERS, EXPORT, GAS AND DOMESTIC PURPOSES.

W. Saward & Co.,

65 TRINITY BUILDING,

27-i **111 BROADWAY**

For Sale.

SEVERAL THOUSAND ACRES OF VALUABLE BARYTES AND LEAD LANDS, well watered and timbered, and finely adapted to cultivation; with valuable improvements, situate in Washington county, in the middle of the great lead region of Missouri, and five miles west of the St. Louis and I. M. R.R. For particulars apply to

JOHN P. MURPHY,

one of the proprietors, stopping for a few days at the New York Hotel, or address him at Old Mines, Mo. The best of references given.

THE

BISHOP GUTTA PERCHA CO.

The Original and Only Manufacturers in the United States of

PURE GUTTA PERCHA GOODS,

Gutta Percha Insulated Submarine Telegraph Cables,

Insulated Wire for Telegraph, Mining and Blasting Use.

WATER, BEER, AND SODA PIPE; CHEMICAL VESSELS, TISSUE SHEET FOR HATTERS, ARTIFICIAL FLOWER MAKERS, &c.

Factory, Nos. 208, 210 and 212 East 25th Street.

Office and Salesroom, 113 Liberty street, New York.

West of Broadway.

WALTER O. LEWIS, Esq., Electrician to the Co SAMUEL C. BISHOP, General Agent. 25-ps

STEAM ENGINES.

HUBBARD & WHITTAKER,

102 FRONT STREET, BROOKLYN,

Manufacturers of

High and Low Pressure Steam Engines,

Also,

BOILERS, SUGAR MILLS, HYDRAULIC PRESSES, and TIN MEN'S TOOLS

Of all descriptions.

SHAFTING, PULLEYS, AND IRON AND BRASS CASTINGS,

Constantly on hand.

Send for Circular. 26-xm

GROVESTEEN & CO.,

PIANO-FORTE MANUFACTURERS,

499 BROADWAY, NEW YORK.

These Pianos received the Highest Reward of Merit at the World's Fair, over the best makers from London, Paris, Germany, the cities of New York, Philadelphia, Baltimore and Boston; also, the GOLD MEDAL at the American Institute, for FIVE SUCCESSIVE YEARS! Our Pianos contain the French Grand Action, Harp Pedal, Overstrung Bass, Full Iron Frame, and all Modern Improvements. Every Instrument WARRANTED FIVE YEARS. Made under the supervision of Mr. J. H. GROVESTEEN, who has a practical experience of over thirty-five years, and is the maker of over eleven thousand pianofortes. Our facilities for manufacturing enable us to sell these instruments from $100 to $200 cheaper than any first-class piano-forte. 19-qp

THE HORACE WATERS GRAND, SQUARE and UPRIGHT PIANOS, MELODEONS and CABINET ORGANS, wholesale and retail. To let, and rent allowed if purchased. Monthly payments received for the same. Second-hand pianos at bargains, from $60 to $225. Factory and Warerooms, 481 BROADWAY. Cash paid for second-hand pianos. Pianos tuned and repaired. Sheet Music, a little soiled, at 1½ cents per page.

11-xs HORACE WATERS.

FAMILY KNITTING MACHINES

FOR HOSIERY AND FANCY ARTICLES,

Manufactured by the

Dalton Knitting Maching Company.

OFFICE No. 569 BROADWAY, N. Y.

WM. JAS. BOGGS, Secretary. D. P. RHOADES, Pres.

For Agencies and Circulars, apply as above. 26xm

EMPIRE SEWING MACHINE CO.

Principal Office, 616 Broadway, N. Y.

GREAT IMPROVEMENT

in Sewing Machines. Empire Shuttle, Crank Motion Sewing Machines. It is thus rendered noiseless in action. Its motion being all positive, it is not liable to get out of order.

IT IS THE BEST FAMILY MACHINE.

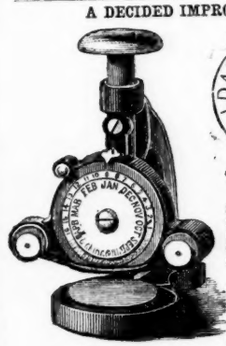
Notice is called to our NEW and IMPROVED Manufacturing Machine for Tailors and Boot and Shoe Fitters.

Agents wanted, to whom a liberal discount will be given. No consignments made.

EMPIRE SEWING MACHINE CO.,

6 qp 616 Broadway, N. Y.

A DECIDED IMPROVEMENT.



The Dial CANCELLING STAMP,

Self-Inking. Self-Adjusting. for days and months. Simple, Durable and Reliable. Only one form of Die is used, as per sample (oval shape). I also furnish, at the Manufacturers' prices, every variety of Hand Stamps and Seal Presses manufactured in the United States. JAMES DAMMERS, 195 Broadway, New York. 18-ps

FIRE-PROOF

IRON TANK

STORAGE COMPANY,

TRANSFER OFFICE, - - - 38 BROAD STREET,

14-9p NEW YORK.

OIL LANDS FOR SALE.

Thirteen Thousand Acres of Land,

in the Canada Oil Regions, in the Townships of Enniskillen, Dawn, Zone, Moore, Brooke and Sombra, for sale or to lease, for Oil purposes, in portions to suit purchasers.

For terms and particulars apply to the proprietor.

4-qp T. D. LEDYARD, 74 Yonge Street, Toronto.

JAY COOKE & CO.,

BANKERS.

In connection with our houses in Philadelphia and Washington, we this day open an office at No. 1 Nassau street, corner of Wall, in this City.

Mr. EDWARD DODGE, late of CLARK, DODGE & CO., New York; Mr. H. C. FAHNESTOCK of our Washington house, and Mr. PITT COOKE, of Sandusky, Ohio, will be resident partners.

We shall give particular attention to the purchase and sale of GOVERNMENT SECURITIES, and to orders for purchase and sale of STOCKS, BONDS and GOLD.

JAY COOKE & Co.

New York, March 1, 1866. 9-ps

DUNCAN, SHERMAN & CO.,

BANKERS,

CORNER PINE AND NASSAU STREETS,

NEW YORK,

ISSUE

CIRCULAR NOTES & LETTERS OF CREDIT FOR TRAVELLERS,

AVAILABLE IN ALL THE PRINCIPAL CITIES OF THE WORLD.

MERCANTILE CREDITS

For Use in Europe, China, etc. Also Make

Transfers of Money to California & Oregon, by Telegraph.

12-ps INTEREST ALLOWED ON DEPOSITS.

EDWARD BATES DORSEY, EDWARD A. FLINT,

Mining and Civil Engineers

SAN FRANCISCO CALIFORNIA.

Are prepared to Examine Mining and other Property, and also take charge of the General Superintendence and Working of the same.

REFERENCES:

Bank of California, San Francisco		Barling & Davis, New York.	
John Sime & Co.,	" "	Lees & Waller,	" "
Wells, Fargo & Co.,	" "	Wm. R. Garrison,	" "
Louis A. Garnett,	" "	John T. Daly,	" "
A Hayward,	" "	F. M. Kelly,	" "
F. D. Atherton,	" "	J. B. Dickinson,	" "
Hon. Ed. Bates, St. Louis, Mo.		A. & A. Lawrence & Co. Boston	
Sam'l L. L. Barlow, New York.		Greely S. Curtis,	"
Chas. Gould,	" "	Lee, Higginson & Co.,	"
D. L. Ross,	" "	Theodore Lyman,	"
Wm. T. Coleman & Co.,	"	John Wyeth, Philadelphia.	tf

PORTABLE STEAM ENGINES.

Brayton's Safety Steam Generator and Engine.

A PERFECT SUCCESS.

By this invention the long sought-for object has been accomplished, to wit: A means by which Steam can be Generated Safely, so that there shall be no more danger from explosion than with the hot-air engine, and at the same time retain all the power of the steam engine. This much sought-for result has at last been accomplished, and after many severe tests we feel fully warranted in offering this Steam Generator and Engine to the public as a perfectly safe power, and at the same time a cheap power. As a generator of steam for heating buildings, etc., there is not its equal in use.

For further information, or circular, address

R. A. HUTCHINSON, Agent.

21ps No. 8 Dey Street, New York.

IMPORTANT TO MINERS.

Every description of Analysis and Assays carefully attended and returns promptly made, by

WESTERN & COMPANY,

No. 37 Park Row, and 145 Nassau St., New York City.

P. O., Box 5,969.

CANNEL COAL.

HAND PICKED INSHALL,

FROM YARD,

264 East Twenty-third Street.

4 vol2 i ALEXANDER & CO

CANVASSERS WANTED.—CANVASSERS WANTED in every city, town and village, for the AMERICAN JOURNAL OF MINING. Extra inducements offered to energetic, faithful men. Specimen copies furnished free of charge. Address

WESTERN & COMPANY, 37 Park Row, New York.

SCHOOL OF MINES, COLUMBIA COLLEGE,

EAST 49th STREET, NEW YORK.

FACULTY:

F. A. P. BARNARD, S.T.D., LL.D., President.
T. EGLESTON, Jr., E. M., Mineralogy and Metallurgy.
FRANCIS L. VINTON, E. M., Mining Engineering.
C. F. CHANDLER, Ph. D., Analytical and Applied Chemistry and Geology.
JOHN TORREY, M.D., LL.D., Botany.
CHARLES A. JOY, Ph. D., General Chemistry.
WILLIAE G. PECK, LL.D., Mining Surveying.
JOHN H. VAN AMRINGE, A.M., Mathematics.
OGDEN N. ROOD, A.M., Mechanics and Physics.

The plan of this School embraces a three years' course for the degree of ENGINEER OF MINES, or BACHELOR OF PHILOSOPHY

For admission, candidates for a degree must pass an examination in Arithmetic, Algebra, Geometry and Plain Trigonometry. Persons not candidates for degrees are admitted without examination, and may pursue any or all of the subjects taught. The next session begins October 1, 1866. The examination for admission will be held on June 25, 26, and September 28, 29. For further information, and for catalogues, apply to

3vol 1-dp DR. C. F. CHANDLER, Dean of the Faculty.

TAYLOR & SCOTT,

Mining Engineers and Surveyors,

48 PINE STREET, NEW YORK,

Will examine and report upon Copper, Lead, Coal, and other Mines; furnish Plans, and, if not at too great a distance from the city, will undertake the management of the same. Surveying of every description attended to.

REFERENCES: Prof. A. A. Hayes, Boston; Gen. A. E. Burnside, Providence, R. I.; S. L. French, Esq., Boston; N. H. S. Lead Co., New York; Black River Mining Co., Boston; H. Williams, Esq; M. E., Canada; Lionel Brough, Esq., Gov. Ins. Mines, London, Eng.; New Hampshire Silver Lead Co., New York; St. Flavien Mining Co.; R. C. Hawkins, Esq., New York and Boston, and others. 1.xm

OFFICE OF

MAYNARD & TIEMANN,

Mining Engineers and Consulting Chemists,

240 PEARL ST., N. Y., AND CENTRAL CITY, COLORADO.

Assays of Gold and Silver, Analyses of Ores, Minerals, Furnace products, Guano, Soda Ash, &c., &c.

Special attention given to the Analysis of Iron Ores, Iron Slag and Iron Cinder. 17xm

DESULPHURIZING PROCESS.

Patented by B. Keith, A. Behr and N. S. Keith,

SEPTEMBER 9TH, 1862.

Parties desirous of procuring the right to use the process, and

INFORMATION OF THE LATEST AND MOST IMPROVED MACHINERY FOR REDUCING ORE,

Can apply to B. KEITH, 41 Liberty Street, New York,
Or to
24 ps A. BEHR & N. S. KEITH, Black Hawk, Colorado.

TO THE MINING PUBLIC.—THE SUBscribers are now prepared to receive either Gold or Silver Ores, by the Ton or smaller quantity, and make a fair working test of same, and respectfully invite all who are interested in Minerals to call and examine their process for extracting the Precious Metals. They are also prepared to make the usual Fire Assay

Our Works are at the foot of North Third Street, Brooklyn, E. D. They can be reached either by Grand Street Ferry, or by Greenpoint cars, which pass the door.

CHARGES.

Testing	1 lb. of Ore	$3 00
"	5 "	5 00
"	10 "	7 00
"	50 "	10 00
"	100 "	15 00
"	1 ton "	25 00

FIRE ASSAYS.

Gold and Silver	combined	$5 00
"	" separate	7 00

11-ps BARBER & WYCKOFF.

WM. D. ANDREWS & BRO.,

414 WATER STREET, NEW YORK,

Manufacturers of Andrews' Patent

Oscillating Engines,

CENTRIFUGAL PUMPS, AND TUBULR BOILERS.

Our ENGINES occupy little room, are light, simple, cheap, and economical, require no special foundation or ballance-wheel pit, and can be run from **150** to **500** revolutions per minute with Safety. Sizes from **1-2** Horse to **250** Horse-Power.

Our CENTRIFUGAL PUMPS pass mud, sand, coal, corn, gravel, etc., without injury, and use little power. Sizes from **90** Gallons to **40,000** Gallons per minute capacity. For sewers, canals, coffer dams, condensers, irrigation, and wrecking, they are unequaled.

Our BOILERS are light, strong, and portable, are economical of fuel, burn Wood, Hard or Soft Coal, and CONSUME THE SMOKE. Sizes from **2** to **50** Horse-Power.

Awarded First Premiums at the recent Fair of the American Institute—a gold medal to each.

Portables from **2** to **20** Horse-Power. Send for descriptive pamphlets and price-lists. 23-a

LABORATORY OF INDUSTRIAL CHEMISTRY,

DIRECTED BY

Prof. H. Dussauce, Chemist.

Advices and consultations on chemistry, applied to arts and manufactures, agriculture, metallurgy, etc.; plans of factories, drawings of apparatus. He can furnish the most recent improvements in chemical fabrications, such as chemical products, petroleum soaps, candles, colors of lead and zinc, varnishes, ceramic glass, wines, liquors, vinegars, matches, inks, dyeing and calico printing, perfumery, colors of coal tar, tanning, etc., etc.

He will give all necessary information to exhibitors to the great Exhibition. Address: New Lebanon, Columbia Co., N. Y. tf

NEW YORK BELTING AND PACKING CO.,

MANUFACTURERS OF

Vulcanized Rubber Fabrics,

Adapted to Mechanical Purposes.

Patent Smooth Belting, (Patented Nov. 22, 1859,) vulcanized between layers of a patent metallic alloy, by which the stretch is entirely taken out, the surface made perfectly smooth, and the substance thoroughly and evenly vulcanized. This is the only process that will make reliable Rubber Belting.

Hose never needs oiling, and warranted to stand any required pressure.

Steam Packing in every variety, and warrrnted to stand 300° of heat.

Solid Emery Vulcanite.—Wheels made of this are solid, and resemble stone or iron; will wear out hundreds of the ordinary wheels.

Directions, Prices, etc., can be obtained by mail or otherwise.

28-qp JOHN H. CHEEVER, Treasurer.

Warehouse 37 & 38 Park Row, N. Y.

INCRUSTATION OF

STEAM BOILERS.

This greatest of evils in the use of steam is entirely prevented by the "Anti-Incrustation Powder" of

H. N Winans, 11 Wall Street, New York.

INVENTED AND INTRODUCED IN 1855.

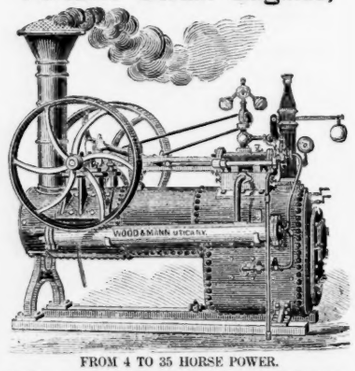
now ten years in successful operation in over 6,000 boilers, without injury, and saving many times its cost in fuel and repairs.

A clean boiler generates steam more freely, and will outlast ten dirty or incrusted ones. 1vol-2ps

WOOD & MANN STEAM ENGINE CO.'S

CELEBRATED

Portable Steam Engines,



FROM 4 TO 35 HORSE POWER.

Also, Portable Saw Mills.

We have the oldest, largest and most complete works in the United States, devoted exclusively to the manufacture of Portable Engines and Saw Mills, which, for simplicity, compactness, power and economy of fuel, are conceded by experts to be superior to any ever offered to the public.

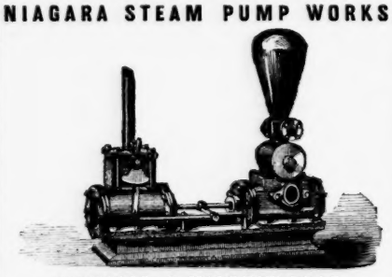
The great amount of boiler room, fire surface and cylinder area which we give to the rated horse power, make our Engines the most powerful and cheapest in use; and they are adapted to every purpose where power is required.

All sizes constantly on hand, or furnished on short notice.

Descriptive circulars, with price list, sent on application.

WOOD & MANN STEAM ENGINE CO., Utica, N. Y.,
12-qp Branch Office, 96 Maiden Lane, New York City.

NIAGARA STEAM PUMP WORKS.



CAMPBELL & HARDICK BROS.,

No. 9 ADAMS STREET,

BROOKLYN.

Send for circular 20xm

STEAM PUMPS.

Guild & Garrison,

ENGINEERS AND MACHINISTS,

MANUFACTURERS OF

Steam Pumps, Steam Engines, Vacuum Pans,

and all the necessary connections. The Steam Pumps are of the following class, namely:

EXCELSIOR, AIR VACUUM,
BALANCE WHEEL, DOUBLE PLUNGER,
DUPLEX, WATER PROPELLOR.

and a number of other plans adopted for different purposes. These Pumps are suitable for all the various kinds of Pumping. Manufactured and for sale at the

STEAM PUMP WORKS, 55 & 57 FIRST STREET.

(on same block with the Grand and Roosevelt street Ferry Landing,) WILLIAMSBURGH, NEW YORK. 16-qp

STEAM PUMPS.

A. S. CAMERON & CO.,

22ND STREET, CORNER OF 2ND AVENUE, N. Y.

HAVE ONE HUNDRED AND FORTY patterns to select from, arranged to order for pumping

WATER, ACID,
AIR, LIQUOR,
OIL, SYRUP,
MASH, &c.

Pumps guaranteed in the most difficult situations. We refer to any first class machine shop in the United States.

Parties are hereby cautioned against using Steam Pumps arranged to work by hand in violation of our original and re-issued Letters Patent, covering this feature. 22-xm

STEAM PUMPS.

The Woodward Steam Pump Manufacturing Company,

MANUFACTURERS OF THE

WOODWARD PATENT IMPROVED SAFETY STEAM PUMP, FOR MINING PURPOSES AND AS A FIRE ENGINE.

Also,

STEAM, WATER AND GAS FITTINGS OF ALL KINDS.

Also, Wholesale and Retail Dealers in WROUGHT IRON PIPE, BOILER TUBES, etc.

WOODWARD BUILDINGS, Nos. 76 & 78 CENTRE ST. NEW YORK.

Corner of Worth Street, formerly of No. 77 Beekman Street.

GEO. M. WOODWARD,
21xm President.

HYDRAULIC WORKS,

MANUFACTORY,

BROOKLYN, N. Y.

Steam Pumping Engines, Single and Duplex, Worthington's Patent, for all purposes, such as Water Works Engines, Condensing or Non-condensing; Air and Circulating Pumps, for Marine Engines; Air Pressure Pumps; Blowing Engines; Vacuum Pumps; Stationary and Portable Steam Fire Engines; Boiler Feed Pumps; Wrecking Pumps;

Mining Pumps,

Water Meters, Oil Meters; Water Pressure Engines; Stamp Mills for Gold, Silver and Copper Ore; Eaton's Patent Amalgamators for Gold and Silver; Steam and Gas Pipe, Valves, Fittings, &c.; Iron and Brass Castings.

☞ Send for Circular.

H. R. WORTHINGTON,
19-xm 61 Beekman street, New York

THE STEAM SYPHEN PUMP,

is the most simple, effective, and durable device for raising water by steam yet discovered.

It is an

Independent Lift and Force Pump,

and throws a steady continuous stream without piston, plunger, valves, or movable parts of any kind.

It is an efficient FIRE ENGINE wherever a steam boiler is used, and valuable for mining purposes where the height is not too great to which water must be forced. Address

STEAM SYPHEN COMPANY,
4 vol2-xm 48 Dey Street, New York.

J. CLAYTON'S

Patent Steam Pumps,

HAND PUMP, & STEAM ENGINE COMBINED.

These pumps contain every desirable quality in a steam pump, are made of the best material, and in the best manner, and are the cheapest first-class pumps in the market. For cut and description see JOURNAL OF MINING, No. 18, Vol. I. Please send for circular.

PRICE LIST.

No.	Diameter of Steam Cyl. Inside.	Diameter of Water Cyl. Inside.	No. Revolutions.	No. Gallons discharged per minute.	Length of Stroke.	PRICE.
No. 0	2½ in.	1¾ in.	200	4	4	$130 00
" 1	4 "	2 "	180	20	5	200 00
" 2	5 "	2⅝ "	160	45	6	275 00
" 3	7 "	3½ "	140	85	7	375 00
" 4	9 "	5 "	110	150	8	525 00
" 5	12 "	7 "	90	275	8	625 00

Other sizes of pumps made to order at the shortest notice.

18ps JAMES CLAYTON, 102 Front street, Brooklyn, N. Y.

PORTABLE STEAM ENGINES,

COMBINING THE MAXIMUM OF

Efficiency, Durability and Economy,

with the minimum of weight and price. They are widely and favorably known, more than SIX HUNDRED being in use. All warranted satisfactory, or no sale. Descriptive circulars sent on application. Address J. C. HOADLEY & Co.

ps 20 Lawrence, Mass.